

Missouri Title II.D Evaluation Report for 2009-2010

Submitted to the U.S. Department of Education on behalf of the Missouri Department of Elementary and Secondary Education by:

A handwritten signature in black ink that reads "Chris L Nicastro". The signature is fluid and cursive, with "Chris" and "L" being more stylized and "Nicastro" having a more traditional cursive appearance.

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The Title II.D Enhancing Education through Technology Program was signed into law with the No Child Left Behind Act of 2001 (P.L.107-110). This legislation reauthorized the Elementary and Secondary Education Act of 1965 and established the Ed Tech Program that consolidated the Technology Literacy Challenge Fund Program and the Technology Innovative Challenge Grant Program into a single state formula grant program (ESEA Title II, Part D, Subpart 1). The primary goal of the Ed Tech program is to improve student achievement through the use of technology in schools. Specifically, this program aims to assist every student in crossing the digital divide by ensuring that every student is technology literate by the end of the 8th grade, and to encourage the effective integration of technology with teacher training and curriculum development to establish successful research-based instructional methods.

The Title II.D program's first appropriation, as determined by Congress in FY02, was set at \$696 million, nationwide. State grant allocations are based on each state's proportionate share of funding as determined by NCLB, Title I, Part A formulas. States then establish grant programs for disseminating flow-through funds to eligible local education agencies (LEAs).

The original appropriation language directed states to disseminate half of flow-through funds via formula grants, based on districts' NCLB Title I, Part A allocations, and half of flow-through funds via competitive grants, targeted for high-need districts. Missouri earmarked competitive grant funding to assist districts in implementing school or district-wide implementations of the research-based enhancing Missouri's Instructional Networked Teaching Strategies Program. An eMINTS project entails comprehensive professional development aimed to support educators as they integrate multimedia technology into inquiry-based, student-centered, interdisciplinary, collaborative teaching practices that result in higher levels of student performance.

When, after three years of steady funding, the Title II.D annual allocation was reduced by Congress in FY05 (set at \$496 million) and again in FY05 (set at \$276 million), Congress amended the appropriation language giving states the option of distributing flow-through funds solely through competitive grants (100 percent) or through a combination of formula grants (not more than 50 percent) and competitive grants (not less than 50 percent).

Annually, the Missouri Department of Elementary and Secondary Education (the Department or DESE) – with input from district federal program practitioners – determines how the state's Title II.D allocation will be distributed. The annual *Title II.D Education Technology Program End-of-Year Review* report describes how program funds were distributed, details the numbers and kinds of grants funded, and presents findings based on formative and summative assessment. The 2009-2010 not only addresses programs under the regular Title II.D program, but also the Title II.D programs implemented with one-time American Recovery and Reinvestment Act (ARRA) funding. [See Chapter I of this report for information about ARRA and the one-time Title II.D funding.]

This report is one of several documents published by DESE Instructional Technology that examine the use and effectiveness of education technologies in Missouri. Other evaluation information can be found in annual updates to the Missouri Education Technology Strategic Plan, annual Census of Technology summary reports, and other program summaries (including eMINTS Program research reports). For more information visit the ed-tech website at <http://dese.mo.gov/divimprove/instrtech/> and/or contact Deborah S. Sutton, director of instructional technology, at 573-751-1262 or deborah.sutton@dese.mogov.

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The Missouri educational technology program had a very successful year – attributed to the influx of ARRA funds – which helped the state fully support state and national ed-tech goals for 2009-2010. Following the evaluation outline provided in Appendix A, the state looked at a variety of information sources to determine the effectiveness of the ed-tech programs in place in the state during 2009-2010. By most evaluative indicators, distribution of the Title II.D and ARRA formula and competitive grants during the 2009-2010 school-year had a very positive impact on Missouri schools. Success can be attributed to the federal funding since there was no other ed-tech funding available in the state during this time.

Following is a summary of the data sources and the status is meeting the intended annual benchmarks or outcomes.

Use of Set-Aside Funds

The Missouri Department of Elementary and Secondary Education (DESE) used set-aside funds to enhance teaching and learning throughout the state. Following is a brief outline of how funds were used. These activities were deemed successful or beneficial as measured by participation numbers, participant feedback, website usage, and such.

- Information and Communications Technology Literacy (ICTL) – the new standards were developed, and professional development and a website established to help educators integrate the ICTL in their classrooms.
- E-rate analyst – this contract helped to keep the state informed of any new rules and to provide technical assistance for schools applying for E-rate funds.
- Technology-enhanced lessons – lessons passing the eMINTS portfolio requirements were integrated in SuccessLink's online lessons/units, and SuccessLink staff were contracted to create viable online curriculum for science and social studies.
- Chief Technology Officer (CTO) Symposium – the state co-hosted this webinar event in the state to help schools CTOs discuss their roles, responsibilities, and necessary credentials.
- Summer Library Program – the state helped distribute DVDs to districts wishing to participate in the State Library's summer reading program.

Missouri Education Technology Strategic Plan Goals

The Missouri Education Technology Strategic Plan (METSP) serves as a road map to assist districts in integrating technology. The 2007-2011 METSP builds on the effort and success of the previous plan and reflects emerging state and federal ed-tech programs, including Title II.D Program, goals of the national educational technology plan, and a state and national call for 21st century college and career readiness skills. The plan presents eight major recommendations for the DESE to take to help districts use technology effectively organized around five focus areas: 1) Student Learning, 2) Teacher Preparation and the Delivery of Instruction, 3) Administration, Data Management and Communications, 4) Resource Distribution, and 5) Technical Support.

Since Title II.D program goals and the ARRA guiding principles are embedded in the METSP goals, the funding made available during 2009-2010 helped the state make great strides toward meeting the METSP goals. The additional ARRA funds resulted in increases of such magnitude not seen in the last five to ten years. These are described below and in the full 2010 METSP Status Report provided as Appendix B.

Title II.D Program Goals and EDEN Data Elements

Since the METSP is aligned with Title II.D Goals, it follows that the state also made huge strides in meeting Title II.D Program goals. Appendix D shows the state made significant increases in meeting all program goals, particularly that of training educators how to integrate technology to increase productivity and enhance teaching and learning. Following is a September 2010 status report with regards to the Title II.D EDEN data elements:

- Technology integration – the number of districts reporting that technology is integrated into all core curricula increased from 94 to 95 percent; the rate of teachers able to fully integrate technology in their instruction and assessment increased from 70 to 75 percent; and, eMINTS certified an additional 572 teachers and 27 trainers (more than three times more than the annual goal of 200 teachers and trainers).
- Educator technology proficiency – high levels of administrators (95 percent) and teachers (88 percent) are technology literate, rated as having intermediate or advanced technology usage skills.
- Student technology literacy – the median district rate of 8th-grade students deemed technology literate increased from 60 to 77 percent.
- Instructional computers – the ratio of students per an Internet-connected dropped from 2.55 to 2.29 in 2010.
- Connectivity – the number of districts with connections at/above 10Mb per 1,000 staff and students increased from 160 to 178, and the median access for 519 districts and LEAS connected through the Missouri Research and Education Network (MOREnet) increased from 7.31 to 8.13Kb per student.

Formula Grant Activities and Impact

Missouri's formula grant allocations were generally under \$20,000 – with only 36 districts having combined Title II.D and ARRA allocations at or above \$25,000. Nonetheless, districts applied for the funds and reported activities and expenditures in line with Title II.D program goals and the ARRA guiding principles. Preliminary results indicate that the formula grant funding had a positive impact in terms of Missouri's 555 districts, 2,246 schools, and over 70,000 teachers being able to acquire up-to-date educational technologies to enhance teaching, learning, and professional development.

Analyses to determine the impact of formula grant funds is challenging because of the small grant allocations, the transferability of funds, and the fact that districts can spread their allocations across two years. Districts are also encouraged to consolidate funds to support school improvement plans, making it difficult to isolate the impact of the small amount of technology dollars. The state planned to examine formative and summative information via the following data resources:

- Input Data – looking at the numbers of eligible applicants that successfully applied for formula grant funding, the size of the grants, how the funds were intended to be used and how they were expended, and the degree to which the funds were expended by June 30, 2010.
- Impact Data – looking at statewide data provided through the April 2010 Missouri Census of Technology, examining 2010 data against the state plan goals and comparing 2010 data with data reported in previous years.

Input Data

In July 2009 550 of the 555 Missouri public school districts (including charter LEAs) had approved formula applications: 550 of the 555 districts eligible for Title II.D and 536 of the 550 eligible for the ARRA funding. With having two years to spend the money, with allocations not becoming final

until well into the fiscal year, and then made aware by mid-year that there likely would be no additional formula funding available in 2010-2011, many districts did not expend all of their allocations by June 2010. However, analyses did show that program activities and expenditures were aligned with the Title II.D program goals and the ARRA guiding principles.

Impact Data

Because of the entitlement nature of formula grants and so many small allocations, the state planned to evaluate program impact using existing resources as much as possible. It was decided that formula grant evaluation would be evaluated using two primary sources of data collection: the Missouri Census of Technology and a state-created survey to be completed by the districts receiving formula funding at or above the \$25,000 threshold.

- Census of Technology – for all districts, completed April 2010 and 2011
 - Analyze aggregate findings for the 2010 and 2011 data collections, and
 - Analyze disaggregated findings in 2011, comparing districts with allocations at/above \$25,000 to state averages.
- Follow-up Survey – for districts receiving \$25,000 or more in Title II.D and ARRA funding, conducted in April 2011
 - Analyze how funds were purposed and the degree to which intended outcomes were realized.

Census of Technology Findings

The Missouri Census of Technology (COT) is designed to assess Missouri's continuing investment in K-12 education technologies and to help guide forward efforts. It provides important data for the state to track its progress in meeting state and national ed-tech goals; it provides district with useful data to identify strengths and needs and develop strategies to facilitate school improvement processes and compare district progress to the state goals. COT involves a district-level survey completed by a central office administrator and a school building survey completed by a building administrator or technology director.

Since the Title II.D and ARRA formula grants constituted the only source of funding dedicated for education technology in 2009-2010, the 2010 COT data clearly indicate significant changes that can be attributed to the Title II.D and ARRA formula funding. As described throughout this report, and detailed in Appendix C, districts and school buildings indicated a marked increase in the numbers and kinds of technologies located in schools. In some cases, the increases between 2009 and 2010 COT data were over three times more than increases noted in previous years. Technology usage statistics also showed improvements, but these increases were less remarkable. However, the state expects to see further increases next year after schools have another year to spend all their formula funds and another year of integrating the technologies purchased this year.

These data are particularly noteworthy when keeping in mind two facts: many districts reserved some of their funding for next year; over 40 percent of the funds that were expended were used to support salaries and/or professional development rather than acquisitions. The 2010 data set high expectations for next year, hoping to see similar increases related to technology usage.

Competitive Grant Activities and Impact

Missouri distributed all of the Title II.D competitive grant funding and approximately 75 percent of the ARRA competitive grant funding to scale up the eMINTS Program. The remaining ARRA funding was set aside for districts wanting to implement other research-based instructional models that align with the ARRA guiding principles. Grant applicants could request up to

Executive Summary

\$400,000 for eMINTS model projects and \$200,000 for other model projects. The expectation was to provide another year of funding (2010-2011) for the eMINTS – and for the Other Model projects if there would be sufficient funding.

The enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Program, administered by eMINTS National Center in collaboration with the departments of elementary and secondary education and higher education, is a research-based model providing intensive professional development that inspires educators to use instructional strategies powered by technology to enrich teaching, engages students in the excitement of learning, and improves student performance. The Comprehensive eMINTS for Teachers, as well as the MINTS for All (eMINTS4All) Teachers and the eMINTS for Ed-Tech Specialists (PD4ETS) programs, involve two years of course work and regular on-site visits. These programs are aligned to recent National Educational Technology Standards for Teachers and to Title II.D program goals and the ARRA guiding principles. Extensive research has been conducted throughout the life of the program, indicating that students in classrooms taught by eMINTS-certified teachers outperform students in non-eMINTS classrooms.

The 2009-2010 funding was sufficient to award a total of 24 competitive grants: eight (8) eMINTS Year 2 (continuation) grants, 10 Year 1 eMINTS grants, and six (six) Other Instructional Model grants. The eight Year 2 eMINTS and two of the Year 1 eMINTS grants were supported with Title II.D funding; the remaining eight Year 1 eMINTS and all of the one-year Other model grants were supported with ARRA funding.

Similar to the formula grant evaluation, the state looked at input and impact data to evaluate the competitive grant program.

- Input Data – examine how grants were approved, how grant recipient school characteristics compared to statewide data, and how grant funds were purposed and expended.
- Impact Data – analyze data provided by districts via the mid-year progress report and end-of-year program evaluation narrative, examine project evaluation reports submitted by the grants' external evaluators; and, for eMINTS grants, examine data provided by the eMINTS National Center.

Input Data

Competitive grant demographics vary year to year. The eligibility criteria favor larger and more urban schools that have high numbers of school-aged children living in poverty, and small and/or rural districts that serve high percentages of poverty children. The eight continuation grant recipients (awarded Year 1 grants in 2008-2009) are mostly smaller, rural districts; several of the new grant recipients are larger and less rural. Overall, the 2009-2010 Title II.D and/or ARRA competitive grant recipients are comparable to the typical or median Missouri district in terms of location (locale codes 6 and/or 7) and school poverty.

In total, the 24 grants served 400 classroom teachers and approximately 10,860 students, grades K-12. The 10 Title II.D eMINTS grants served 147 teachers and approximately 4,400 students, the 8 ARRA eMINTS served 122 teachers and 4,000 students, and the ARRA Other Model grants served 131 teachers and over 2,460 students.

The eMINTS grant awards are set at amounts sufficient for schoolwide projects to support a core set of educators as they participate in their appropriate eMINTS professional development program. During Year 1, approximately 50 percent of the grant awards are budgeted for teacher workstations

and student computers, enough for one computer per every two students in elementary classrooms and either two or one-to-one in middle and high school classrooms. Approximately 30 percent of the funds support teacher professional development (teacher training stipends, travel, substitutes for all-day professional development events, contract with eMINTS to provide professional development, and the teacher laptop, software, and Internet connectivity required to complete the training). The remaining twenty percent covers material and supplies, software purchases, equipment (with unit prices over \$1,000), and local evaluation. Over 70 percent of the Year 2 costs are professional development related, as equipment needs (other than maintenance, repair, and replacement costs) are met in the first year.

The ARRA Other Model grants budgets varied by project. Three of the grants proposed district-based eMINTS projects, modifying the eMINTS professional development to fit the needs of the districts and to fit a one-year implementation schedule. [As previously mentioned, the Other Model grant was informed that another year of funding would only be made available in 2010-2011 if there was sufficient funding.] These grants budgeted 30 percent of the funds for professional development, which is very similar to the official eMINTS grants.

The other three ARRA Other Model grants focused on different topics: to integrate technology into the 6-Traits Writing process, to develop technology-enhance formative and summative assessments, and to integrate technology into high school social studies classrooms via the use of videoconferencing and digital storytelling projects. Compared to the eMINTS grants, these projects budgeted more for purchased services and less on capital outlay.

In previous years, the expenditure rates hovered at/above 97 percent. In 2009-2010, districts spent less than 93 percent overall. The ARRA Other Model grants had the highest rate at 99 percent – which is not surprising since these were one-year grants with smaller maximum amounts than budgeted for the eMINTS projects. The Title II.D eMINTS grants had the next highest rate at 93 percent – with the smaller Year 2 grants spending 95 percent. Last were the ARRA eMINTS grants with expenditure rats averaging under 90 percent.

Three factors help explain the lower than usual eMINTS project expenditure rates.

1. One of the two districts with new Year 1 Title II.D grants spent only 81 percent of its budgeted funds because use of a local eMINTS trainer reduced training costs and actual equipment costs were lower than previously quoted.
2. One of the ARRA eMINTS grant recipients was a provisionally accredited district the state had managed the last couple of years. It was announced early in 2010 that the district would be closed in May 2010. With this outlook and after two break-ins where eMINTS classroom equipment was stolen, the project was shut down prior to the end of the year.
3. All of the ARRA eMINTS grants came in under budget as a result of the timing when the state award was finalized. The state withheld a portion of the allocations while the bypass contract was being negotiated. The bypass contract administration amount for the ARRA program was less than the amount withheld, but districts didn't have enough time between May 27 and the end of June to spend all the funds.

Impact Data

The impact of the competitive grants is best recognized by grant recipient's end-of-year program evaluation narratives. As explained in this report and outlined in Appendix E, these districts made great strides in using technology to improve teaching and student academic achievement, including technology literacy skills. Overall, the districts noted numerous gains – meeting 79 objectives the districts had established for themselves, many of which were statistically

significant. Among these objectives were 20 related to improved student academic performance, 16 addressing student technology literacy skills, 13 related to effective teaching practices, and 27 addressing technology integration and teacher technology skills. Districts also reported progress toward meeting another 35 objectives, evenly split between teaching and learning.

Research and evaluation conducted by, or on behalf of, the eMINTS National Center indicate similar findings. The two-year professional development schedules [provided in Appendix G] and the portfolio requirements [discussed in Appendix H] are rigorous and require commitment. A 2008 study by the EDC Center for Children and Technology found that passing scores for the teacher portfolios are related to improved student academic achievement. In 2009-2010, 328 Comprehensive eMINTS and 244 eMINTS4All teachers successfully completed their professional development and received passing portfolio scores. Too, 27 educators were certified as eMINTS instructional specialists after successfully completing all requirements of the PD4ETS program.

Conclusions

The Missouri educational technology program had a very successful year for 2009-2010 which can be attributed to the influx of ARRA funds and which helped the state fully support state and national ed-tech goals. Formula grants benefitted 555 districts, over 70,000 teachers, and roughly 900,000 students statewide. Applications and expenditures indicated the grants supported salaries, technology-related professional development, and acquisition of technology resources. The 2010 Census of Technology noted significant increases in the numbers of computing devices purchased in the last year and notable increases in the percentage of teachers able to fully integrate technology in their classrooms and the percent of eighth-grade students who are deemed technology literate.

Competitive grants served 24 districts, over 30 school buildings, and over 10,800 students, grades K-12. Grant-recipients' mid-year reports and end-of-year narratives indicated teachers benefitted from effective professional development, resulting in improved instructional practices and increased student engagement and academic achievement. The end-of-year objectives reports and external evaluator reports indicated that every grant showed positive – at times, significant – changes in how teachers are teaching and using technology to enhance teaching and learning, and how students learn and what they achieve and can perform.

Recommendations and Lessons Learned

Nonetheless, there continue to be areas in need of improvement. In reviewing COT entries, competitive grant application narratives, and end-of-year PEN reports, it is apparent that districts struggle with reporting meaningful and usable data. Staff recommend the following actions:

- Make necessary updates to the ePeGS system and work with districts to ensure timely expenditures of their ARRA formula funds.
- Develop the formula grant follow-up survey that provides meaningful data for the state and the grant recipients.
- Update guidance and training related to collecting and reporting ed-tech data, completing the technology census, and developing effective district ed-tech plans and grant projects.
- Assist competitive grant project staff and external evaluators in understanding distinctions between program and project evaluation and annual PEN and Final Evaluation reporting.
- Provide more guidance to district administrators on understanding, observing, and supporting expected changes in the classroom.

When additional funding was made available under the American Recovery and Reinvestment Act, the Missouri Department of Elementary and Secondary Education (DESE) decided to distribute the Title II.D funds and the ARRA Title II.D funds to Missouri schools through both formula and competitive grants Missouri decided to follow the original guidance of awarding formula grants, since it would be the first time in four years that schools would be eligible for formula funding. DESE leadership determined that while the Title II.D formula grant amounts would be small, the combined formula funding would be sufficient to support effective ed-tech initiatives. This report describes how Missouri distributed the funds, how school used the funds, and what impact the funding had on meeting state and national educational technology goals.

TITLE II.D ENHANCING EDUCATION THROUGH TECHNOLOGY PROGRAM

The Title II.D Enhancing Education through Technology Program was signed into law with the No Child Left Behind Act of 2001. The legislation, reauthorizing the Elementary and Secondary Education Act of 1965 (ESEA), establishes the Ed Tech Program, consolidating the Technology Literacy Challenge Fund (TLCF) Program and the Technology Innovative Challenge Grant (TIC) Program into a single state formula grant program (ESEA Title II, Part D, Subpart 1).

The primary goal of the program is to improve student achievement through the use of technology in schools. It is designed to ensure that every student is technology literate by the end of the 8th grade, and to encourage the effective integration of technology with teacher training and curriculum development to establish successful research-based instructional methods.

Title II.D Program funds support districts via formula and competitive grant programs, with each sub-grant program distributing 50 percent of the district flow-through funds. In keeping with Missouri's consolidated application, the formula grant program is administered by the Department of Elementary and Secondary Education (DESE) Federal Grants Management (FGM) section and the competitive grant program is administered by the Department's Instructional Technology section.

In Missouri competitive Title II.D funds are used to assist districts in implementing the eMINTS (enhancing Missouri's Instructional networked Teaching Strategies) Program that supports educators as they integrate multimedia technology into inquiry-based, student-centered, interdisciplinary, collaborative teaching practices that result in higher levels of student performance. Classrooms are equipped with extensive technology and teachers engage in over 250 hours of professional development course work and at least 24 classroom visits by qualified instructional specialists over the course of two years. Begun in 1999, eMINTS has extensive program evaluation and research that can be accessed at <http://emints.org/evaluation/>.

AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

The American Recovery and Reinvestment Act of 2009 (ARRA), is an “unprecedented effort to jumpstart the American economy, create or save millions of jobs, and put a down payment on addressing long-neglected challenges so our country can thrive in the 21st century.” The overall goals of the ARRA are to stimulate the economy in the short term and invest in education and other essential public services to ensure the long-term economic health of the nation. ARRA provides one-time funding, with the intent to use these funds to strengthen education, drive reforms, and improve results for students from early learning through post-secondary education.

Four principles guide the distribution and use of ARRA funds:

- a. *Spend funds quickly to save and create jobs.* ARRA funds will be distributed quickly to states, local educational agencies and other entities in order to avert layoffs, create and save jobs and improve student achievement. States and LEAs in turn are urged to move rapidly to develop plans for using funds, consistent with the law's reporting and accountability requirements, and to promptly begin spending funds to help drive the nation's economic recovery.
- b. *Improve student achievement through school improvement and reform.* ARRA funds should be used to improve student achievement. In addition, the SFSF provides funds to close the achievement gap, help students from all backgrounds achieve high standards, and address four specific areas that are authorized under bipartisan education legislation – including the Elementary and Secondary Education Act (ESEA) and the America Competes Act of 2007:
 1. Making progress toward rigorous college- and career-ready standards and high-quality assessments that are valid and reliable for all students, including English language learners and students with disabilities;
 2. Establishing pre-K-to college and career data systems that track progress and foster continuous improvement;
 3. Making improvements in teacher effectiveness and in the equitable distribution of qualified teachers for all students, particularly students who are most in need;
 4. Providing intensive support and effective interventions for the lowest-performing schools.
- c. *Ensure transparency, reporting and accountability.* To prevent fraud and abuse, support the most effective uses of ARRA funds, and accurately measure and track results, recipients must publicly report on how funds are used. Due to the unprecedented scope and importance of this investment, ARRA funds are subject to additional and more rigorous reporting requirements than normally apply to grant recipients.
- d. *Invest one-time ARRA funds thoughtfully to minimize the “funding cliff.”* ARRA represents a historic infusion of funds that is expected to be temporary. Depending on the program, these funds are available for only two to three years. These funds should be invested in ways that do not result in unsustainable continuing commitments after the funding expires.

The Recovery Act provides \$650 million in fiscal year 2009 funds for the Ed Tech program, which is authorized under Title II.D of ESEA. The Ed Tech ARRA funds provide a one-time source of funds that supplement the approximately \$265 million of Ed-tech funds made available under the regular FY2009 appropriation. All Ed-Tech ARRA funds are subject to the requirements of the Title II.D Enhancing Education through Technology Program.

MISSOURI BYPASS CONTRACT FOR NON-PUBLIC SCHOOL PARTICIPATION

A portion of Missouri's Title II.D allocation(s) is directed to an independent contractor that serves Missouri students enrolled in private schools. Missouri's constitution places restrictions on how public schools can work with nonpublic schools. Since these restrictions would pose particular difficulty for a program that goes well beyond professional development to promote effective and equitable use of technology hardware and software, DESE and Missouri Council for American Private Education representatives in May 2002 petitioned the U.S. Department of Education [ED] to set aside roughly ten percent of the state's funding for nonpublic schools, since student enrollment in nonpublic schools represents about ten percent of the public school enrollment.

DESE counsel submitted the letter in January 2003, and ED awarded the first bypass contract to Advanced Learning Technologies (ALTEC) at the University of Kansas, Center for Research on Learning and the Center for Research. In 2009 the contract was awarded to Procurement, Accounting, and Logistics Services (PAL) and Practical Concepts Consulting (PCC). The Missouri Independent & Private Schools Education Technology Center (MIPS-ET) is a service organization developed by PAL Services Inc. and Practical Concepts Consulting, L.L.C. whose sole purpose is to support Missouri's non-public schools through the Enhancing Education through Technology (EETT) program. For more information, see: <http://www.mips-et.org/index.html>.

FUNDS DISTRIBUTION

ED awarded both the regular Title II.D funds and the ARRA Title II.D funds to states in July 2009. Together, the two grant awards constituted a state's total FY2009 allocation. However, because there are special reporting requirements under ARRA, states, LEAs, and other eligible entities must account for these funds separately. While the ARRA Title II.D funds are available for obligation through September 30, 2011, ED encouraged states to spend the funds quickly, and prudently, to support economic recovery.

With the additional funds, DESE decided to distribute the regular Title II.D funds and the ARRA Title II.D funds to Missouri schools through both formula and competitive grants. As in the past the focus of competitive grants funded with regular Title II.D funding was to support schoolwide implementations of the eMINTS instructional model. The ARRA competitive funds, however, were divided with approximately 75 percent of the competitive funds earmarked for new eMINTS projects and the remaining 25 percent available for other research-based instructional technology models. [See manual for details, at: http://dese.mo.gov/divimprove/instrtech/federalfunded/TitleIID/documents/FY10_TitleIID_STIMULUS_Manual.pdf]

PROGRAM ACTION PLAN TIMELINE

The following steps were taken to plan, implement, and evaluate the Title II.D Programs for school-year 2009-2010. With advanced preparation and the passage of ARRA in early February, Missouri was able to run both programs simultaneously and award grants by July 1, 2009.

Title II.D Program Planning Timeline

Action Plan	Timeline
Reviewed existing program materials (program design and outcomes, guidelines, administrative manual, eligibility criteria, application materials, report forms, etc.) – instructional technology section	Fall 2008
Analyzed previous year's program review, most recent Census of Technology data, updated state education technology plan, etc. to determine necessary changes or revisions for coming year – instructional technology	Summer 2009
Developed, distributed current application materials – instructional technology <ul style="list-style-type: none"> • Competitive program: cover letter, eligibility lists, FAQ, programs at-a-glance, application forms, workshop information • Formula grants: allocation tables, application window, ePeGs and consolidated federal grant application 	January 2009
Conducted program information workshops <ul style="list-style-type: none"> • Competitive program (statewide workshop) – instructional technology section • Formula application (regional workshops) – grants management section 	Spring 2009
	February 27, 2009
	March -May 2009

ARRA Title II.D Program Planning Timeline

Action Plan	Timeline
Decisions to distribute regular AND ARRA funds 50-50, and for ARRA competitive grant program to support both eMINTS and other research-based projects – instructional technology, grants and financial management sections	February 2009
<ul style="list-style-type: none"> • Department established ARRA website and sent first official communication to districts regarding ARRA funds distributed through the SEA • Worked with DESE ARRA committee and the Governor's Office to plan and disseminate ARRA program information • Presented ARRA-funded Title II.D program in a statewide ARRA webinar 	February 2009
	February-July 2009
	July 14, 2009

ARRA Title II.D Program Planning Timeline (continued)

Action Plan	Timeline
Developed and distributed FY 2009-10 application materials via newsletter articles, listserv announcements, and website bulletin board – instructional technology	February 2009
<ul style="list-style-type: none"> • Competitive grants: developed specific manual for ARRA-funded non-eMINTS competitive grant program, pushed back application deadline to April 15 • Formula grants: allocation tables, application window, ePeGS and consolidated federal grant application 	Spring 2009
Conducted program information workshops	February 27, 2009
<ul style="list-style-type: none"> • Competitive program: statewide workshop for EETT, ARRA, and state STEM-related competitive grant programs – instructional technology • Formula grants; regional workshops – grants and financial management • Statewide ARRA webinar – All appropriate DESE staff 	May 2009 July 14, 2009

Grant Application Submission, Review, and Approval Timeline

Action Plan	Timeline
Processed competitive grant applications (paper submissions) for EETT, ARRA, and state-funded STEM grant programs – instructional technology	
<ul style="list-style-type: none"> • Evaluated first-year competitive grant program applications <ul style="list-style-type: none"> • Screened applications for responsiveness • Solicited and trained grant readers / evaluators • Read / evaluated grant application narratives Assign economic, technology, academic need points 	March-May 2009 April 2009 March-April 2009 April 20-23, 2009 April 23, 2009
Processed, approved Year 2 continuation grants – instructional technology	
<ul style="list-style-type: none"> • Reviewed applications for responsiveness • Notified districts of preliminary approval • Negotiated and finalized projects and budgets 	May 1-8, 2009 By May 15 May – June 2009
Approved competitive all Year 1 grant applications – instructional technology	
<ul style="list-style-type: none"> ▪ Determined final scores, rank ordered applications by competition, and drew cut-off scores based on funds available and grant requests ▪ Notified schools of approval decision (approved, not approved) ▪ Negotiated and finalized budgets (EETT and ARRA) 	By May 15, 2009 June 18, 2009 June-July 2009
Processed and approved consolidated federal programs applications that contained regular and ARRA-funded Title II.D formula grants – grants management	
	June-July 2009

Grant Implementation, Monitoring, and Oversight Timeline

Action Plan	Timeline
EETT and ARRA "eMINTS" Competitive grant programs – instructional technology	
<ul style="list-style-type: none"> eMINTS staff helped Year 1 schools finalize eMINTS professional development plans <ul style="list-style-type: none"> Hosted first face-to-face DESE-eMINTS meeting for Leadership Institute teams and set up Moodle space Continued to provide training, inform districts of up-to-date information, discuss monitoring, reporting, and evaluation requirements and guidance documents (F2F, Elluminate, and Moodle communication) Conducted telephone and on-site monitoring visits and technical assistance as needed/requested; Monitored programs in districts scheduled for a school improvement program review; Reviewed quarterly checklists and mid-year progress reports and end-of-year Program Evaluation Narratives Processed amendment requests and final expenditure reports 	June-July 2009 July 16, 2009 July 2009-June 2010 September 2009-July 2010 through July 2010
ARRA "Other Model" Competitive grant programs – instructional technology	October 6, 2009
<ul style="list-style-type: none"> Hosted webinar for district Leadership, project implementation teams, and external evaluators; Discussed monitoring, reporting, and evaluation requirements and guidance documents <ul style="list-style-type: none"> Continued to provide training/technical assistance via email and calls Conducted telephone and on-site monitoring visits and technical assistance as needed or requested; Monitored programs in districts participating in a Missouri School Improvement Program review Reviewed mid-year progress reports and end-of-year Program Evaluation Narratives Process amendment requests and final expenditure reports 	Ongoing September 2009-June 2010 January-June 2010 through July 2010
Regular and ARRA-funded formula grant programs	Sept. 27-29, 2009
<ul style="list-style-type: none"> Hosted Federal Programs Conference – federal financial management, grants management, and instructional technology sections Conducted telephone and on-site monitoring visits and technical assistance as needed or requested; Monitored programs in districts participating in a Missouri School Improvement Program review – grants management Processed amendment requests and final expenditure reports – grants management 	Ongoing Through July 2010

Grant Evaluation and Research Timeline

Action Plan	Timeline
Competitive grant programs – instructional technology	
<ul style="list-style-type: none"> Examined application approval statistics, program expenditures, formative assessment information (quarterly reports, monitoring reports, meeting notes, staff meetings, feedback from participants and out-of-state consultants) and summative assessment information (teacher technology literacy skills survey, EOY reports regarding changes in teaching strategies, technology integration and student academic achievement and technology literacy skills) Analyzed student performance in Year 2 grant-recipient schools and reviewed districts' end-of-project evaluation studies Review ed eMINTS evaluation data and reports ARRA-funded grants participated in SETDA Collaborative surveys 	July 2009-July 2010 September-October 2010 As available Fall 2009

Grant Evaluation and Research Timeline (continued)

Action Plan	Timeline
Formula grant programs – financial management and instructional technology sections <ul style="list-style-type: none"> Reviewed transfer of federal funds in and out of Title II.D programs and final grant expenditures; Reviewed Census of Technology data and progress toward meeting Title II.D and Missouri State Education Technology Strategic Plan goals and objectives for districts expending \$25,000 or more in total formula funds 	July-September 2010
Overall Title II.D and ARRA-funded Title II.D programs – instructional technology <ul style="list-style-type: none"> Reviewed statewide Census of Technology data and progress toward meeting Title II.D and Missouri State Education Technology Strategic Plan goals and objectives 	July-September 2010

STATEWIDE ACTIVITIES

The following programs and activities were supported in part or in whole with Title II.D and ARRA Title II.D program administrative funds and/or state funds during school-year 2009-2010.

Evaluation of Education Technology Programs and Initiatives

DESE evaluates the effectiveness of the state's technology grant programs and initiatives. Staff conduct formative and summative assessments to evaluate the Title II.D grant programs, progress toward meeting established state ed-tech plan goals and objectives, and effectiveness of district technology planning assistance, the Technology Network Program, contracted professional development and E-rate assistance. Assessment data include annual survey findings (Census of Technology, SETDA State Profile and other national surveys), program records, and sub-grantee and contractor reports. (See the Appendix for an outline of the data and processes taken to evaluate Missouri technology programs.) *[Instructional Technology staff time is supported with Title II.D administrative funds]*

State and District Education Technology Planning

<http://dese.mo.gov/divimprove/instrtech/techplan/>

Title II.D funds are used to support committee work related to the state technology plan (METSP) and approval of district technology plans. Each May, panels of Missouri educators review the district education technology plans needing State approval. (Districts must submit new plans every three years, with roughly one-third of districts needing approval each year.) The readers evaluate the plans using the established scoring criteria. Readers include administrators, technology directors, and library media specialists. Title II.D funds support training, meeting, and travel costs of the reviewers. Readers also provide feedback as to the effectiveness of technology planning assistance and the approval submission process and scoring criteria. *[Instructional Technology staff time and peer review costs are supported with Title II.D administrative funds]*

State Educational Technology Directors Association (SETDA)

<http://www.setda.org/>

Title II.D funds are used to support annual SETDA membership dues, which allows Missouri to interact with representatives from across the country and form a collective voice about initiatives of interest to the members. The fees help support committee work to analyze and propose

recommendations on how to improve student learning through technology, surveys that analyze trends among the states, telephone “Expert Talks” and “Tech Talks” and two national meetings. [*[\$4,750 membership supported with Title II.D state set-aside funds]*]

DESE joined SETDA’s 21st Century Collaborative initiative in July 2009. This community, centered on ARRA in general and the Ed Tech ARRA program in specific, offers states the opportunity to communicate with one another via individual and group chats, share grant applications and procurement documents, participate in an ARRA data collections, and benefit from the development of vision documents, electronic resources, and outreach efforts. [*[\$4,900 membership supported with Title II.D state set-aside funds]*]

Census of Technology Data Collection

<http://dese.mo.gov/divimprove/instrtech/statefunded/census/>

DESE conducts an annual Census of Technology to track districts’ education technology efforts. Begun in 1997 to assess the Technology Network (TNP) and state Technology Grants (TAG) programs, the census has been revised a number of times to align items with the state technology plan, Title II.D and other federal or state education technology programs, and related data collection tools developed by ED (EDFacts) and the State Educational Technology Directors Association (State Profile). Census data are collected March-May, processed and analyzed during the summer, and reported in a state summary report in late summer. [*Instructional Technology staff time supported with Title II.D administrative funds*]

electronic Planning and electronic Grants System (ePeGS)

<http://dese.mo.gov/epegs/>

Title II.D administrative funds are used to help support the Department’s electronic Planning and electronic Grants System (ePeGS): a one-stop website for districts to create and enter long-range plans and apply for grants available through DESE. Districts began using the tool in school-year 2008-09 by entering long-range plans; districts began using the tool to apply for federal NCLB formula-based grant programs, aligning proposed grant activities and expenditures to goals and objectives in appropriate plans (such as comprehensive school improvement plans and education technology plans) in 2009-10. Support for the project comes from federal funds, pro-rated across participating sections/programs. [*Title II.D application programming supported with Title II.D administrative funds*]

Since the spring 2009 review cycle, districts use ePeGS to develop and submit technology plans. To assist planners, Instructional Technology staff provided a variety of guidance documents, conducted workshops at the Federal Programs Conference in September 2009, the Missouri Instructional Technology Conference (MITC) in October 2009, and the Missouri Connections 2010 Conference in March 2010, and provided technical assistance via telephone, newsletter articles, listserv announcements, webinars, and regional technology director meetings. [*Instructional Technology staff time supported with Title II.D administrative funds*]

Statewide ARRA Planning and Reporting

<http://dese.mo.gov/divimprove/sia/ARRA.html>

DESE established a special ARRA planning team to help provide program planning and oversight, conducted a statewide webinar, and maintained a website to help keep districts informed of program funds’ availability, accountability and reporting. [*Staff time supported by Title II.D administrative funds; webinar hosted by Missouri Association of School Administrators*]

Title II.D Competitive Grant Application Evaluation

Annually a panel of readers is convened to review and evaluate the competitive Title II.D grant application narratives. Readers include Missouri district and school administrators, technology

directors, curriculum directors, library media specialists, and teachers. Grant funds are used to support training, meeting, and travel costs of the reviewers. [*Instructional Technology staff time and peer review costs supported with Title II.D administrative funds*]

eMINTS Program Evaluation

<http://www.emints.org/evaluation/index.shtml>

The enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) program assists educators as they integrate multimedia technology into inquiry-based, student-centered, interdisciplinary, and collaborative teaching practices. Extensive research indicates that students taught by eMINTS teachers have higher levels of student performance. The eMINTS National Center conducts program evaluation and research and Title II.D grant recipients evaluate competitive grant implementations. [*Recipients set aside at least 5% of their competitive grants to conduct local evaluation; eMINTS fees support professional development and administrative costs, such as evaluation; Administrative funds support Instructional Technology staff time.*]

eMINTS-DESE Leadership Institutes

<http://www.emints.org/programs/leadership/index.shtml>

Begun in association with the International Society for Technology in Education (ISTE), the eMINTS-DESE Leadership Institute helps competitive grant recipients in fully implementing the eMINTS instructional model and meeting Title II.D program rules and goals. Leadership teams learn about appropriate assessment measures for local evaluation and participation in eMINTS evaluation; begin building online evaluation portfolios of artifacts to demonstrate project success; explore and identify resources needed in the areas of evaluation, assessment, funding, and professional development; and develop a sense of community and network with other participants in their cohorts. [*District and eMINTS costs are covered by grant funds and eMINTS fees; Instructional Technology staff time is supported with administrative funds*]

Information and Communications Technology Literacy Standards Development, Training

<http://dese.mo.gov/divimprove/curriculum/GLE/>

In fall 2008, DESE Instructional Technology, Library Media, and Curriculum Services convened a committee to develop ICT literacy grade level and course level expectations (GLEs and CLEs) for grades K-12. While technology is embedded in the Show-Me Standards, earlier GLE documents only addressed literacy as a communication arts strand. The new literacy standards, posted for public comment in fall 2009 and finalized in 2010, are aligned with national literacy, educational technology, and library standards, present ICT literacy as a responsibility for all educators, and provide instruction and assessment guidance related to the Title II.D program goal of having all students technologically literate by the end of eighth grade. [*Instructional Technology staff time and committee work supported with Title II.D administrative funds*]

e-Learning for Educators ICT Literacy Contract

<http://www.elearningmo.org/>

The e-Learning for Educators program, begun in October 2006 as part of a multi-state U.S. Department of Education *Ready to Teach* grant, is designed to leverage the expertise and experience of Missouri's educators while making high-quality professional development available across the state. Missouri educators are trained to facilitate and develop online professional development courses designed for Missouri teachers. [*e-Learning for Educators: Missouri is supported by grant fund, course fees, and special contracts*]

DESE contracted e-Learning for Educators: Missouri staff, in fall 2009, to create self-paced and facilitated online professional development courses to help Missouri educators integrate the new CIT Literacy standards. [*[\$22,950 contract supported with Title II.D state set-aside funds]*]

SuccessLink Best Practices Contract

<http://www.successlink.org/>

SuccessLink is a not-for-profit organization dedicated to identifying and disseminating best educational practices throughout Missouri. Staff collaborate with other educational and educational technology entities to provide high-quality resources for Missouri educators and host the annual Show-Me TechKnowledge showcase in the Capitol Rotunda. The SuccessLink website provides successful lessons/units and best practices in K-12 education and the Missouri JOBS site that facilitates online posting of available job openings and online submission of job applications. In July 2009 SuccessLink worked with DESE Instructional Technology to disseminate best practices in tech-enriched lessons and work with DESE Curriculum Services to create a voluntary online state curriculum for schools in need of a viable curriculum that will help improve student achievement. [*[\$135,000 contract supported with Title II.D state set-aside funds]*]

Collaborative Summer Library Program

<http://www.sos.mo.gov/library/>

The Missouri State Library, as part of the Secretary of State Office, provides direct library service to executive and legislative branches of the Missouri state government and to blind and physically-handicapped residents of Missouri, and promotes development and improvement of library services throughout Missouri. The Department helps provide liaison assistance between the Missouri State Library, the public libraries across the state, and school library media specialists. In July 2009, DESE collaborated with the State Library's Summer Reading Program, helping purchase and distribute program DVD packets for Missouri school districts. [*[\$2,518 purchase supported with Title II.D state set-aside funds]*]

E-rate Assistance Program Contract

<http://www.more.net/services/e-rate/index.html>

The Department contracts with the Missouri Research and Education Network (MOREnet) to provide workshops and website, listserv, and technical assistance to Missouri schools related to the Universal Service Fund's education discount (E-rate) program. [*[\$50,000 contract supported with Title II.D state set-aside funds]*]

CoSN K-12 Chief Technology Officer Symposium

<http://www.more.net/content/k-12-chief-technology-officer-symposium>

MOREnet and DESE hosted a K-12 Chief Technology Officer Symposium, April 30, 2010 to assist Missouri school leaders in using technology effectively and efficiently. The Consortium for School Networking (CoSN) presented its *Framework of Essential Skills of the K-12 CTO* via video link, occurring simultaneously in St. Louis and Kansas City. The revised framework consists of groupings of essential skill areas related to leadership and vision, understanding the educational environment, managing technology and support resources, and core values and skills. Speakers included Keith Krueger and Kari Arfstrom with CoSN, Jim Klein, Director Information Services and Technology, Saugus Union School District, California, and Bailey Mitchell, Chief Technology and Information Officer, Forsyth County School District, Cumming, Georgia. Copies of the presentations are posted on the MOREnet website at: <http://www.more.net/content/missouri-cto-symposium-session-information>. [*[\$4,000 CoSN fee supported with Title II.D set-aside funds]*]

PROGRAM INTENT

As explained in Chapter I, DESE decided to award formula grants in 2009-2010 under the regular Title II.D program and the ARRA-funded Title II.D program. Districts applied for the grants via the consolidated federal grants application. Since the DESE Federal Grants Management section administers the consolidated federal programs application, FGM staff provide application assistance and oversight of both Title II.D formula grant programs. See

<http://dese.mo.gov/divimprove/fedprog/documents/administrativemanual.pdf>

The intent of formula grants under the Title II.D Program – and the ARRA-funded Title II.D Program – is to provide districts with funding to support education technology activities that promote goals of the federal No Child Left Behind Act (NCLB). The primary goal of both ed-tech programs is to improve student achievement through the use of technology in schools, with secondary goals to ensure every student is technology literate by the end of the 8th grade and to encourage the effective integration of technology with teacher training and curriculum development to establish successful research-based instructional methods.

The intent of both ed-tech program and the allowable uses of program funds align very well with the Missouri School Improvement Program (MSIP), as indicated below:

- professional development in the use of technology (MSIP standard 6.7)
- development of partnerships (6.3, 6.4)
- activities to connect schools and parents (7.5)
- acquiring connectivity linkages, resources, and services (6.4)
- evaluation of technology effectiveness in meeting state standards (6.3, 6.7)
- technology to increase academic achievement (6.4, 6.8, 6.9, 7.2, 7.4)
- developing or acquiring technology curriculum (6.3, 6.4, 6.7)
- preparing and paying school technology leaders (6.3, 6.4, 6.7)
- technology to collect, manage, and analyze data (6.4, 6.9)
- developing, enhancing, or implementing information technology courses (6.3, 6.4, 6.7)

STATE FUNDING

The federal FY 2009 appropriations included \$275 million for the national Title II.D program and \$650 million for the ARRA-funded Title II.D program. Given the small amount available for the Title II.D grant program, states were once again given the option of distributing funds to schools via competitive grants – an option Missouri accepted for school-years 2006-2007, 2007-2008, and 2008-2009. Early guidance from ED indicated the ARRA-funded program would operate under existing Title II.D program rules and funds should be distributed via both formula and competitive grants – a decision that later was changed, encouraging states to distribute the ARRA funds via competitive grants to better ensure grant amounts of sufficient size and scope that result in significant impact.

Missouri decided to follow the original guidance of awarding formula grants, since it would be the first time in four years that schools would be eligible for formula funding. DESE leadership determined that while the Title II.D formula grant amounts would be small, the combined formula funding would be sufficient to support effective ed-tech initiatives.

ELIGIBLE APPLICANTS

Tables 1 and 2 indicate the total numbers of K-12 institutions in the state and those eligible to apply for the FY 2009 formula grants. Table 1 outlines all schools in the state and those eligible to participate in the Title II.D programs. All 555 districts/LEAs were eligible to apply for the regular Title II.D formula grants, with all but five eligible for the ARRA-funded formula grants. Just over 90 percent of the nonpublic schools participated in Title I programs, making them eligible for Title II.D formula grant programs.

Table 1
Title II.D and ARRA Formula Grant Eligibility, 2009-2010

K-12 Institution	Total		Title II.D Eligible		ARRA Eligible	
	Number	Enrollment	Number	Enrollment	Number	Enrollment
Public	555	891,488	555	891,488	550	855,299
• Districts	522	873,344	522	873,344	517	837,155
• Charter LEAs	33	18,144	33	18,144	33	18,144
Nonpublic Schools	414	85,237	376	81,510	359	76,792
Totals	969	976,725	931	972,988	909	932,091

Table 2 indicates the numbers of public school districts and charter schools by size. As shown, over two-thirds of the districts (377) have enrollments under 1,000 students; 520 (94 percent) have under 5,000 students; and, 535 (over 96 percent) have under 10,000 students. The median district had 566 students in 2009-2010.

Table 2
Eligible Districts for Title II.D and ARRA Formula Grants by Size of Enrollment

Enrollment Range	# Districts	% Districts
1 – 499	257	46.3%
500 – 999	120	21.6%
1,000 – 4,999	143	25.8%
5,000 – 9,999	15	2.7%
10,000 – 19,999	17	3.1%
20,000 or more	3	0.5%
Total	555	100%

FORMULA FUNDING ALLOCATIONS

In June 2009, DESE Federal Financial Management posted estimated Title II.D and ARRA-funded Title II.D Formula Grant allocations. The estimated amounts were provided so districts could submit their consolidated Federal Grants Application by the June 30 deadline – with the understanding that the amounts likely would change, depending on the actual state grant amounts. Table 3 indicates the flow-through funds allocated for formula grants for school-year 2009-2010. The July 2009 flow-through amounts reflect funds available to schools (public and private) after deducting the five percent for DESE administration and the amount for bypass administration. The Adjusted amounts reflect changes made to the allocations as follows:

- In October 2009, ED notified DESE that the Title II.D state award had been decreased as a result of a renegotiation of the Missouri bypass contract. Since the competitive projects were already well underway, DESE decided to honor the approved competitive grant awards and apply the \$199,464 reduction to the formula sub-grant program. As a result,

- flow-through funds were distributed 46.6 percent formula and 53.3 percent competitive.
- In November, while attending a national Title II.D meeting, DESE staff was informed there likely would be a renegotiation of the ARRA Title II.D bypass contract, as well. Almost half-way through the program year, DESE requested that ED act on this in a timely fashion – with the intent for DESE to issue one notice to schools, informing them of changes to both their Title II.D and ARRA-funded Title II.D Formula Grant allocations. When that did not occur, DESE cautioned schools to spend no more than 70 percent of the estimated ARRA allocations until further notice. These events impacted schools' ed-tech plans for the 2009-10 school year and what schools were able to accomplish with the stimulus funding, as well the formula calculations for the FY 2010 REAP Small, Rural School Achievement (SRSA) grant awards.

Table 3
Missouri Title II.D and ARRA Title II.D Formula Grant Funding

FORMULA GRANT FUNDS	Title II.D	ARRA Title II.D	Total Ed-Tech
Flow-through Amounts – July 2009	3,644,949	8,953,365	12,598,014
Total Allocated	1,822,324	4,476,683	6,299,007
Formula Grant Percent	50%	50%	50%
Flow-through Amounts – Adjusted	3,489,996	8,945,373	12,435,369
Total Allocated	1,627,595	4,472,686	6,100,281
Formula Grant Percent	47%	50%	49%

FINAL LEA ALLOCATIONS

As reported in Table 3, Missouri had a total of \$6.1 million to distribute in formula grants: roughly \$1.6 million for Title II.D and \$4.5 million for Title II.D–ARRA. However, because of the large number of districts, the award amounts were very small, particularly the regular Title II.D formula grants. Table 4 notes that all 555 districts/LEAs were eligible for Title II.D formula grants and 550 for the ARRA formula grants. The Title II.D formula grant allocations ranged from a low of \$9 to high of \$164,115, with nearly 493 districts (90 percent) having allocations under \$5,000 and 548 (99 percent) having allocations under \$20,000. The ARRA formula grant allocations ranged from \$12 to \$403,318, with 364 districts (66 percent) having allocations less than \$5,000 and 520 (95 percent) having less than \$20,000. In combined Title II.D and ARRA funding, 307 districts (57 percent) had allocations under \$5,000 and 497 (90 percent) had less than \$20,000. Only 36 districts had combined allocations at or above \$25,000. Only 36 districts had combined allocations at or above \$25,000.

Table 4
Missouri Formula Grant Allocations

Allocation ranges	Title II.D		ARRA		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
\$1 to \$999	251	45.2%	112	20.4%	73	13.2%
\$1,000 to \$4,999	242	43.6%	252	45.8%	234	42.2%
\$5,000 to \$19,999	55	9.9%	156	28.4%	190	34.2%
\$20,000 to \$99,999	6	1.1%	27	4.9%	55	9.9%
Total Allocations	555	100%	550	100%	555	100%
	\$1,510,316		\$4,148,551		\$5,658,867	
Allocation Range	\$9 – \$164,115		\$12 – \$403,318		\$9 – \$53,4073	
Median Allocation	\$1,175		\$2,915		\$4,060	

APPLICATION PROCESS

Program Notice

DESE leadership and the sections administering the Title II.D and ARRA-funded Title II.D programs alerted schools to the availability of formula funds through a variety of communications.

- Instructional technology maintained a monthly online newsletter and an ed-tech listserv that, beginning in January, informed districts of the possibility of ARRA funding and Missouri's intent to be able to offer formula grants again, the first time in four years.
- Instructional technology, federal grants management and federal financial management staffs distributed information to districts via the federal programs and the ed-tech listserv.
- DESE leadership informed districts of all matters related to ARRA, creating a dedicated website, distributing periodic updates, and hosting a statewide webinar in July.
- Instructional technology hosted a statewide ed-tech workshop on February 27, 2009, that addressed the Title II.D and ARRA programs.
- Federal financial management posted preliminary formula grant allocations for both programs, worked with programmers to include ARRA programs in the Consolidated
- Federal grants applications and, along with Federal Grants Management staff, co-hosted a series of regional workshops in March 2009 on how to access and complete their online formula grant applications by the June 30 deadline.
- Instructional technology and federal grants management distributed guidance on including Title II.D and ARRA-funded Title II.D activities in district technology plans.
- All sections provided technical assistance as needed or requested.

Consolidated Application

The DESE consolidated application was updated to include ARRA funds where appropriate. The automated application process addresses all essential elements, from preplanning, to applying, requesting budget amendments and/or payments, and filing final reports, to ensuring 25 percent of Title II.D formula funds are spent for professional development on integrating technology into classroom instruction. The electronic Plan and electronic Grants System (ePeGS) allows schools to easily connect proposed federal grant activities and expenditures to district/building plans.

FUNDS BUDGETED AND EXPENDED

While no district rejected Title II.D or ARRA funds in 2009-2010, some applicants did not budget all their allocations. A total of 550 of the 555 districts eligible had approved regular Title II.D formula grant applications, and 536 of the 550 eligible for the ARRA funds had approved formula grant applications. With having two years to spend the money and made aware by mid-year that there likely would be no additional formula funding available in 2010-2011, many districts – especially those with smaller allocations – did not expend all of their allocations by June 2010.

Table 5 details the allocated and approved amounts for the 36 districts that had combined allocations totaling \$25,000 or more. All but one district had approved applications. Overall, these districts applied for 97 percent of their allocated amounts, with the districts having lesser allocations more apt to not apply for their entire allocation amounts.

Table 5
**Funds Budgeted and Approved for Missouri Districts with
 Combined Formula Allocations at/above \$25,000**

	Title II.D Funds			ARRA Funds			Combined Funds		
	Allocated	Approved	%	Allocated	Approved	%	Allocated	Approved	%
Smallest	\$6,352	\$3,870	61	\$15,112	\$13,354	88	\$24,785	\$21,874	88
Largest	\$130,755	\$130,755	100	\$403,318	\$403,318	100	\$534,073	\$534,073	100
Totals	\$670,697	\$647,565	97	\$1,962,705	\$1,883,817	96	\$2,633,402	\$2,531,383	96
	36	35	97	36	35	97	36	35	97

FUNDS TRANSFERS

Several districts elected to transfer funds in and out of the regular Title II.D program. However, the transfer of ARRA funding was not an option because of its separate accounting and reporting requirements.]Table 6 indicates a net increase of \$337,187, with \$380,464 transferred to Title II.D from Title II.A and Title IV.A and \$43,282 transferred to Titles I., II.A, and IV.A.

Table 6
Missouri Title II.D Formula Grant Transfers

NCLB Program	Transfer Designation	
	From Title II.D	To Title II.D
Title I	\$30,848	NA
Title II.A	\$438	\$268,902
Title IV.A	\$11,996	\$111,562
Sub-Totals	\$43,282	\$380,464
Net Transfer		\$337,187

Because of many small allocations, the state decided to focus formula grant evaluation on those districts with allocations of sufficient size. Tables 7 and 8 describe how districts with total allocations at/above \$25,000 spent their allocations. As noted in Table 7, districts spent most of their Title II.D allocations on salaries and benefits and for materials and supplies (includes equipment with unit costs under \$1,000). Salaries and benefits represented over 40 percent of the Title II.D expenses, almost 44 percent of the ARRA, and 43 percent of the total expenditures. Materials and salaries represented 34 percent of the Title II.D, 25 percent of the ARRA, and 28 percent of the total expenditures. When combining materials/ supplies and capital outlay, the rates increase to 42 percent across the board.

Table 7
Expenditure of Funds for Missouri Districts with Combined Formula Allocations at/above \$25,000

Object Code	Expenditures		
	Title II.D	ARRA	Total
Administration	\$2,205	\$0	\$2,205
Salaries and Benefits	\$185,691	\$483,352	\$669,043
Purchased Services	\$78,655	\$158,438	\$237,093
Materials/Supplies	\$158,213	\$276,678	\$434,891
Capital Outlay	\$33,685	\$183,316	\$217,001
Total Expended	\$458,449	\$1,101,784	\$1,560,233
Total Approved	\$647,565	\$1,883,817	\$2,531,383
Percent Expended	70.8%	58.5%	61.6%

Districts also indicate how funds are used via budget function codes. Table 8 lists expenditures for those functions most frequently noted by districts with allocations at/above \$25,000. Regular Programs covers materials, supplies, or equipment for technology to increase academic achievement or develop/acquire technology curriculum; Support Services covers technical staff salaries and support; Instructional Improvement covers training in the use of technology; Educational Media Services, if coded as salaries, covers staffing to prepare/support school technology leaders and, if coded materials, supplies or equipment, refers to developing or acquiring technology, technology curriculum, or to develop, enhance, or implement information technology courses. As noted in the table, districts spent the most money on professional development, to acquire educational media and software, and to supplement or enhance regular programs. Few Title II.D dollars and no ARRA funds were noted specifically for the care and upkeep of equipment.

Table 8
**Type of Grant Expenditures for Missouri Districts with
 Combined Formula Allocations at/above \$25,000**

Function Code	Expenditures		
	Title II.D	ARRA	Total
Regular Programs	\$79,410	\$158,629	\$238,039
Support Services	\$30,592	\$58,516	\$89,108
Instructional Improvement	\$267,368	\$586,858	\$854,226
Education Media	\$68,329	\$320,884	\$389,213
Equipment Care/Upkeep	\$1,983	\$0	\$1,983

FORMULA PROGRAM EVALUATION

Analyses to determine the impact of formula grant funds is challenging because of the small grant allocations, the transferability of funds, the fact that districts can spread their allocations across two years, and districts are encouraged to consolidate funds to support school improvement plans, which makes it difficult to isolate the impact of the small amounts of technology dollars. Because of the entitlement nature of formula grants and so many of the grant allocations were small, the state planned to evaluate program impact using existing resources as much as possible. It was decided that state staff would perform the formula grant evaluation.

Evaluation Process and Timeline

Formative evaluation would involve DESE staff reviewing the application and approval process to determine the extent districts applied for formula grants and reviewing proposed and expended budgets, and the funds transferred in and out of the Title II.D program, to determine the extent to which districts used the funds available and whether the funds were used appropriately and in line with the Title II.D program goals and the ARRA guiding principles.

To study program impact, the state would examine Missouri Census of Technology data in 20010 and 2011 to determine statewide impact, and would conduct a follow-up survey in spring 2011 to get more in-depth information from those districts receiving formula grants of sufficient size – set at having a combined allocation at or above \$25,000. Evaluation of impact would follow this activities timeline:

- Census of Technology, completed by all districts each spring
 - 2010 and 2011 – Analyze aggregate findings to determine statewide impact
 - 2011 – Disaggregate the data to examine the impact of larger grants (those at/above \$25,000) and compare these findings to state averages

- Follow-up Survey, for districts receiving \$25,000 or more in Title II.D and ARRA funding
 - 2011 – Collect and analyze additional data that looks at how these districts purposed their formula grants funds and how they evaluated the impact of the funding in relationship to the ARRA guiding principles

Findings

Missouri districts took advantage of the Title II.D and ARRA formula grant allocations, with 550 of the 555 districts eligible for Title II.D formula grants and 536 of the 550 districts eligible for ARRA formula grants having approved applications in July 2009. In addition, districts transferred a net increase of \$337,000 into the Title II.D program. Analyses indicated that program activities and expenditures were aligned with the Title II.D program goals and the ARRA guiding principles.

However, with having two years to spend the money, with allocations not becoming final until well into the fiscal year, and with districts informed by mid-year that there likely would be no additional formula funding available in 2010-2011, many districts did not expend all of their allocations by June 2010. Also, there were some issues with payments because of problems with the state's electronic Planning and electronic Grants System (ePeGS).

Data from the 2010 Census of Technology (COT) indicate significant changes that most likely can be attributed to the Title II.D and ARRA formula funding. The COT was first collected in 1998 to help the state assess its continuing investment in K-12 education technologies and guide forward efforts. It is aligned with the *Missouri Education Technology Strategic Plan* (METSP) and is a primary data source for measuring progress toward meeting state goals and objectives. It provides important data for DESE and local districts to share with state and national decision-makers to increase public awareness and advance public policy and support for education technology.

The census is collected each spring and consists of two surveys:

- The District survey is collected from all Missouri districts and charter LEAs. It assesses the levels of planning and training for the district as a whole. It is completed by district-level administrators and/or technology specialists.
- The Building survey is collected from all attendance centers. It assesses planning and training needs for individual school buildings and focuses on hardware and levels of Internet connectivity in computer labs, libraries, and classrooms. It is completed by building-level administrators or technology contacts. [Exempted buildings include juvenile centers, special education cooperatives, buildings where attendance is reported at another building (such as a gifted center), or other buildings with no enrollment data.]

With no other dedicated source of funding for education technology, the assumption is that any changes in the COT data beyond the expected annual increases could be attributed to the Title II.D and ARRA grant funds. As seen in Table 9, which outlines selected COT data reported 2006 through 2010, positive changes were found in almost every category each year, 2006 through 2010, with notably larger increases found in 2010. Not surprisingly, the greatest increases related to technology acquisitions. Schools reported in 2010 a total of over 415,000 computing devices – an increase of 42,762 from the number noted in 2009, two to three times more than the increases noted from 2008 to 2009 (12,530), 2007 to 2008 (17,077) and 2006 to 2007 (15,248). Similarly, the percent of instructional rooms (labs, classrooms, and libraries) with a full suite of technology (equipped with Internet-connected computers, a dedicated interactive whiteboard, and access to a printer) increased to 68 percent compared to 57 percent a year ago and 47 percent in 2008. [A copy of the complete 2010 Census of Technology is provided as Appendix C.]

Table 9
Census of Technology Data Summary, 2006 to 2010

TECHNOLOGY RESOURCES	2006	2007	2008	2009	2010
COMPUTING DEVICES					
Located in all school buildings	328,058	343,306	360,383	372,913	415,675
• Percent in instructional rooms	93%	93%	93.1%	93.7%	93.4%
• Percent connected to the Internet	92%	95%	95.8%	97.3%	95.0%
STUDENTS PER COMPUTER					
All computers	2.85	2.61	2.48	2.39	2.14
• Connected to Internet	2.96	2.75	2.59	2.46	2.25
Instructional computers	2.94	2.81	2.67	2.55	2.29
• Connected to Internet	3.18	2.96	2.77	2.63	2.41
Classroom computers	4.88	4.70	4.38	4.17	3.78
• Connected to Internet	5.42	5.13	4.70	4.39	4.00
INSTRUCTIONAL ROOM TECHNOLOGIES					
Total classrooms, labs and libraries	64,405	67,976	68,938	69,974	70,465
• Percent with multimedia computers	93%	93%	94%	96%	97%
• PLUS Internet-connected computers	90%	91%	93%	94%	95%
• PLUS a full teacher workstation	32%	39%	47%	57%	68%
TECHNOLOGY USAGE					
TECHNOLOGY SKILLS					
8 th -graders with technological skills ⁽¹⁾	90%	90%	92%	60 ⁽¹⁾	77%
Teachers technology proficient	82%	84%	86%	88%	88%
ROUTINE USE BY FUNCTION – PRINCIPALS					
Produce multimedia presentations	57%	61%	66%	70%	71%
Produce written products	80%	82%	84%	85%	85%
Use email for general communication	97%	98%	98%	98%	99%
• to email peers, experts	95%	95%	96%	96%	96%
• to email parents, students	83%	86%	88%	90%	92%
Participate in online course(s)	11%	12%	14%	16%	18%
Conduct online research	83%	82%	84%	85%	86%
Manage databases/student records	85%	87%	89%	91%	91%
Track student performance	84%	85%	88%	90%	91%
ROUTINE USE BY FUNCTION – TEACHERS					
Produce multimedia presentations	51%	59%	64%	69%	73%
Produce written products	80%	82%	84%	86%	88%
Use email for general communication	94%	96%	97%	98%	98%
• to email peers, experts	88%	90%	93%	95%	95%
• to email parents, students	74%	78%	81%	86%	88%
Participate in online course(s)	12%	14%	17%	19%	20%
Conduct online research	76%	77%	81%	83%	85%
Manage databases/student records	76%	81%	86%	89%	90%
Track student performance	77%	82%	86%	89%	91%
Assess student performance	72%	78%	82%	85%	87%
Deliver/present instruction	60%	67%	73%	77%	81%
Prepare lesson plan(s)	68%	71%	77%	81%	83%

⁽¹⁾ Districts began reporting literacy data at the student level rather than estimating of the percent students literate by 8th-grade. Number reported represents the literacy percent for the typical/median district.

Census of Technology Data Summary, 2006 to 2010 (continued)

TECHNOLOGY RESOURCES	2006	2007	2008	2009	2010
ROUTINE USE BY FUNCTION — STUDENTS					
Produce multimedia presentations	43%	46%	50%	52%	55%
Produce written products	60%	61%	63%	64%	66%
Use email for general communication	11%	13%	14%	15%	16%
• to email peers, experts	21%	24%	25%	26%	28%
• to email parents, students	12%	24%	17%	19%	20%
Participate in online course(s)	2%	4%	4%	5%	5%
Conduct online research	56%	58%	61%	62%	64%

While the state recognizes that a self-reported survey can result in spurious data, looking at trend data is more secure than looking at any single data element. The trend data presented in Table 9 would indicate significant changes that most likely can be attributed to the Title II.D and ARRA formula funding. The data suggest that funding clearly had a positive impact in terms of schools being able to acquire up-to-date educational technologies. These data are particularly noteworthy when keeping in mind two facts: many districts reserved some of their funding for next year; over 40 percent of the funds that were expended were used to support salaries and/or professional development rather than acquisitions. The 2010 data set high expectations for next year, hoping to see similar increases related to technology usage.

Recommendations and Lessons Learned

Next year, the state can use COT data or examine the full impact of the ARRA funds. Planning to conduct a more specific survey next year with the districts receiving formula funding at/above \$25,000, and disaggregating the COT data to compare these districts with state averages, should provide more insightful impact data.

Recommendations include: Make necessary updates to the ePeGS system and work with districts to ensure timely expenditures of their ARRA formula funds, and Develop the formula grant follow-up survey that provides meaningful data for the state and the grant recipients.

PROGRAM INTENT

The Title II.D competitive sub-grant program is designed to help high-need schools with “effective integration of technology resources and systems with professional development and curriculum development to promote research-based instructional methods that can be widely replicated.” Missouri Title II.D competitive funds are used to support schoolwide implementations to ensure significant positive impact.

STATE FUNDING

Missouri's FY 2009 allocations included \$3,961,574 in regular Title II.D and \$9,731,919 in ARRA Title II.D funding. After subtracting amounts for state administration and by-pass contract administration and the formula grant program funding, the flow-through amounts available for the competitive sub-grant program were: \$1,862,401 for Title II.D, \$4,472,687 for ARRA, for a total of \$6,335,088.

ELIGIBLE APPLICANTS

The federal No Child Left Behind program requires the Title II.D competitive grant program to fund projects that implement scientifically based instructional methods that result in high academic achievement, as well as targeting “high-need” local educational agencies (LEAs). A high-need LEA is defined as:

- among districts in the state with the highest numbers or percentages of children from families with incomes below the poverty line, and
- serving one or more schools identified for improvement or corrective action under ESEA OR has a substantial need for assistance in acquiring and using technology.

Eligibility lists, based on U.S. Census poverty data, are established annually and posted on the Instructional Technology web site. The lists are created as follows: districts are ranked by numbers and by percentages of children living in poverty. Each ranking is cut in half so only the “poorest” districts are eligible.

As noted in Table 10, the established poverty cut-off points for the 2009-2010 school year were: 119 number of students and 18.45% percent of students. A total of 262 districts met the eligibility cut-off based on number of students and 260 districts met the eligibility based on percent of students. A total of 376 districts were considered eligible through one or both listings.

Table 10
Missouri Competitive Grant Programs – District Eligibility

Poverty Statistic	# Children	% Children
Range	5 – 18,771	3.00% – 57.96%
Cut-off Point	119	18.45%
Districts Eligible	262	260
Total Eligible		376

Eligibility listings indicated a mix of rural and urban schools, representative of the state as a whole. Typically, the “number” ranking favors large and/or metropolitan districts, and the “percent” ranking favors both small districts and inner-city urban districts.

Applicant need is also addressed via the criteria for scoring the applications narratives and assigning bonus points. Applicants must detail in their grant narratives the educational needs of teachers and students and the status of available technology-related resources in the applicant building(s) or district(s). Narrative reviewers assign higher scores to applicants that can document significant educational need for their proposed competitive grant projects, using state and local student achievement data and evidence. The bonus points are assigned by the state using a sliding scale. Technology need points (1-10 points) are based on the applicant building's AYP status (1-5) and the number of students per Internet connected computer (1-5 points). Economic need points (1-10 points) are based on the applicant building's Free and Reduced Lunch rate and previous Title II.D competitive grant funding.

GRANT FOCUS AREAS

All of the FY 2009 Title II.D and 75 percent of the ARRA Title II.D competitive grant funding were earmarked for schoolwide eMINTS implementations. The remaining ARRA competitive funding was set aside for other research-based instructional technology implementations that meet the Title II.D program goals and the ARRA guiding principles. All projects must meet the 25 percent professional development requirement.

Missouri has earmarked competitive Title II.D funding to support participation in the state's enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Program that is administered by eMINTS National Center in collaboration with the departments of elementary and secondary education and higher education. eMINTS is a research-based model, providing intensive professional development programs that inspire educators to use instructional strategies powered by technology to enrich teaching, engage students in the excitement of learning, and improve student performance. Extensive research has been conducted throughout the life of the program by an evaluation team based at Missouri's Office of Social and Economic Data Analysis. (The full set of research reports can be accessed at <http://www.emints.org/evaluation/reports/>.) The flagship program Comprehensive eMINTS for Teachers, as well as the MINTS for All Teachers and the eMINTS for Ed-Tech Specialists, are two-year programs. So a second year of non-competitive funding is provided for projects that make sufficient progress in year one.

GRANT TYPES

Missouri Title II.D competitive funds are used to support schoolwide (or districtwide) grant implementations to ensure significant positive impact. For 2009-2010, an eligible could apply for a schoolwide eMINTS grant or a schoolwide project to implement other instructional models. An application could be submitted by a single District or from a Consortium of districts. A district could only submit and/or participate in one application.

Title II.D Competitive Grants

New first-year and second-year continuation eMINTS implementation grants were available through the regular Title II.D competitive grant program. Grant applicants could request up to \$400,000 for a first-year grant and up to \$150,000 for a continuation grant. Priority was given to continuation grants with any remaining funding made available for new grants.

ARRA Competitive Grants

New two-year eMINTS implementation grants and one-year Other Instructional Model grants were available through the ARRA-funded program. Grant applicants could request up to \$400,000 for eMINTS model projects and \$200,000 for other model projects. The expectation

was to provide another year of funding (2010-2011) for the eMINTS – and for the Other Model projects, if there would be sufficient funding.

FUNDS DISTRIBUTION

All of the Title II.D competitive funding was earmarked for Year 1 and Year 2 eMINTS grants. The ARRA competitive funding was split roughly 75 percent for Year 1 eMINTS grants and 25 percent for projects implementing other research-based instructional technology programs. Table 10 details the funds set aside for each program and grant type.

Table 11
Missouri Competitive Grant Programs – Funds Distribution
by Program and Grant Type

Program	Year 2 Grants		Year 1 Grants		Total
	eMINTS	eMINTS	Other		
Title II.D	\$1,080,000	\$782,401	NA	\$1,862,401	
ARRA	NA	\$3,354,515	\$1,118,172	\$4,472,687	
Total	\$1,080,000	\$4,136,916	\$1,118,172	\$6,335,088	

For equity purposes, funds available for new competitive grants are distributed across four geographic quadrants, with the percentage of program funds designated per quadrant equal in proportion to the percentage of districts located in the quadrant. Table 12 details the ARRA funds set aside for new grants for each area of the state. Note that the Title II.D funding for new grants is not sufficient to distribute across the quadrants.

Table 12
Missouri Competitive Grant Programs – Funds Distribution
by Grant Type and Geographic Quadrant

Quadrant	eMINTS Model	Other Models	Total
NE = 16%	\$536,722	\$178,908	\$715,630
NW = 24%	835,084	268,361	\$1,103,445
SE = 28%	939,264	313,088	\$1,252,352
SW = 32%	1,073,445	357,815	\$1,431,260
Total	\$3,354,515	\$1,118,172	\$4,472,687

APPLICATION PROCESS

Program Notice

Instructional Technology staff kept districts informed of potential competitive grant funding through its monthly online newsletter and EdTech listserv. The Title II.D application packets were posted online in January 2009 and the ARRA packets were made available in February 2009. Each packet of materials included a program-at-a-glance fact sheet [provided below], cover letter, program FAQ, application forms, and workshop information.

A statewide workshop on Missouri ed-tech programs was held in Jefferson City on February 27, 2009. Instructional Technology staff presented information related to the federal Title II.D and ARRA programs and the proposed state eMINTS-STEM grant program. Staff from the eMINTS National Center presented information on designing effective eMINTS implementations. Both DESE and eMINTS staffs provided application and program technical assistance throughout the application window as requested and appropriate.

2009-2010 COMPETITIVE GRANT PROGRAMS AT-A-GLANCE

	Title II.D Ed Tech Competitive Grants	Title II.D ARRA Competitive Grants
Program Purpose	To improve instructional strategies and student academic achievement (including tech literacy) through school-wide implementation of eMINTS instructional model	To improve instructional strategies and student academic achievement (including tech literacy) through research-based, technology-infused school and district implementation projects.
Funding Source	Federal NCLB Title II, Part D	American Recovery and Reinvestment Act of 2009 (ARRA) – one-time funding distributed through the Title II.D Program
Grant Types	<ul style="list-style-type: none"> • Year 1 – Competitive • Year 2 – Renewable / continuation 	<ul style="list-style-type: none"> • eMINTS instructional model • Other research-based instructional technology models
Applicants	<ul style="list-style-type: none"> • District or Consortium of Districts 	District or Consortium of Districts
Eligibility Requirements	<ul style="list-style-type: none"> • Applicant must rank in top half of district rankings based on numbers OR percentages of “poverty” students (determined by U.S. Census) – AND – • Applicant may only submit (or be involved in) one grant application 	<ul style="list-style-type: none"> • Applicant must rank in top half of district rankings based on numbers OR percentages of “poverty” students (determined by U.S. Census) – AND – • Applicant may only submit (or be involved in) one grant application
Application Forms	Title II.D eMINTS application	<ul style="list-style-type: none"> • eMINTS: Regular Title II.D application • Other models: New ARRA application form
Program Appropriation	\$3.4 million [If level funded. Actual amount to be announced]	\$4.58 million [Estimated flow-through for competitive grants]
Funds Distribution	Funds are distributed across four geographic quadrants: NE, NW, SE, SW	Funds are distributed across four geographic quadrants: NE, NW, SE, SW
Maximum Amounts	<ul style="list-style-type: none"> • Year 1 – \$400,000 • Year 2 – \$150,000 	<ul style="list-style-type: none"> • eMINTS: \$400,000 • Other Models: \$200,000
Number of Grant Awards	2 grants	<ul style="list-style-type: none"> • eMINTS: 8 grants • Other: 6 grants
Grant Expenditures	Two-year grants support eMINTS-required technology equipment, resources and professional development costs	Grants support necessary and appropriate technology equipment, resources and professional development costs related to implementation goals, objectives, strategies.
Application Due Dates	<ul style="list-style-type: none"> • Year 1 applications – March 31 • Year 2 applications – May 1 	<ul style="list-style-type: none"> • eMINTS: March 31 • Other instructional models: April 10
Submission Process	Paper application (original plus two copies)	Paper application (original plus two copies)
Grant Begin – End Dates	<ul style="list-style-type: none"> • Annual Grant Period begins July 1 and ends June 30 • Grant Project ends June 30 of second year of grant 	Grant Period begins July 1 and ends June 30
Payment Schedule	District Reimbursement Request: up to 75% available August-May, and Balance based on Final Expenditure Report	District Reimbursement Request: up to 75% available August-May, and Balance based on Final Expenditure Report
Reporting Requirements and Due Dates	<u>Annual Reports:</u> <ul style="list-style-type: none"> • Mid-Year Progress Report – January 31 • Final Expenditure Report (FER) – June 30 • Program Evaluation Narrative (PEN) – June 30 <u>Final Evaluation Report:</u> <ul style="list-style-type: none"> • September 30 (second year of grant) 	<u>Reports:</u> <ul style="list-style-type: none"> • Mid-Year Progress Report – January 31 • Final Expenditure Report (FER) – June 30 • Program Evaluation Narrative (PEN) – June 30 • Project Final Evaluation – September 30

APPLICATION SUBMISSION AND REVIEW PROCESS

The deadline for eMINTS competitive grant applications was March 31, 2009 and the deadline for the ARRA Other Model applications was April 15, 2009. As shown in Table 13, a total of 75 applications were submitted requesting nearly \$20 million in FY10 Title II.D and the ARRA funding.

Table 13
Missouri Competitive Grant Programs – Applications Submitted

Area	Continuation	Competitive Applications		Totals
	eMINTS Model	eMINTS Model	Other Models	
NE	2	3	4	9
NW	2	12	1	15
SE	2	10	7	19
SW	2	21	9	32
Totals	8	46	21	75
	\$963,505	\$15,274,307	\$3,674,902	\$19,912,714

Continuation grants receive funding priority. Continuation grants are not competitive in nature. Department staff review projects for the progress made during Year 1 and their Year 2 applications to finalize goals, objectives, and budgets.

Year 1 grants are competitive and undergo a series of reviews. DESE staff screen applications for responsiveness, train a panel of reviewers on how to read and score grant narratives, and assign additional, needs-based points. The narratives were reviewed by Missouri educators April 20-23, 2009. DESE provided training for the reviewers to ensure inter-reader reliability. Readers used established criteria to assign scores for the project narratives, as detailed below.

- Applications for implementing the eMINTS instructional model were evaluated by five reviewers. Narratives could receive up to 180 points. The high and low reader scores are eliminated and the three remaining scores were averaged.
- Applications for implementing other instructional models were evaluated by three readers. Narratives could receive up to 100 points. The two scores closest to one another were used to determine the score average.

Applications could receive a maximum of 20 additional points based on need. Department staff assigned these additional scores, as detailed below.

- Economic Need scores were based on the percentage rate of students eligible for the Free and Reduced Lunch Program (1 to 5 points possible) and previous funding history (1 to 5 points possible)
- Technology Need scores were based on AYP status (1 to 5 points possible) and the ratio of students per Internet-connected computer (1 to 5 points possible).

TENTATIVE APPROVAL DECISIONS

Approval decisions are based on the total score (narrative score plus need points) and the amount of funds available for each program type and geographic quadrant. A total score of 200 points was possible for projects implementing the eMINTS instructional model, and 120 points was possible for projects implementing other instructional models. The first grants to receive

tentative approval were those that scored the highest in their competition. The next level of approval was based on quadrant balances, followed by next highest score, etc., as funds allows. Table 14 indicates the applicants to receive tentative approval and the basis for their tentative approval status.

Table 14
Missouri Competitive Grant Programs – Tentative Approval Decisions

Tentative Approval Status	Area	Total Score	Scores* (N + FL +PF + AYP + T)	Number Schools	Grant Request
Title II.D – eMINTS Grants					
Jefferson City	SW	162	145 + 5 + 3 + 4 + 5	1	\$ 399,416
Gasconade Co. R-I	SE	147	138 + 1 + 5 + 2 + 1	1	387,429
ARRA – eMINTS Grants					
1 st Priority: quadrant					
St. Louis City	NE	158	146 + 5 + 3 + 3 + 1	1	\$ 393,734
Wellston	NE	135	117 + 5 + 5 + 5 + 3	1	184,000
North Kansas City 74	NW	166	154 + 3 + 3 + 4 + 2	4	396,956
Cameron R-I	NW	154	140 + 2 + 5 + 4 + 3	2	398,307
Sikeston R-6	SE	161	144 + 4 + 5 + 5 + 3	1	399,488
Sedalia 200	SW	160	145 + 5 + 3 + 3 + 4	1	399,876
2 nd Priority: quadrant					
Lebanon R-III	SW	153	136 + 4 + 5 + 4 + 4	2	307,190
Cassville R-IV	SW	153	135 + 4 + 5 + 5 + 4	2	399,392
ARRA – Other Instructional Model Grants					
1 st Priority: quadrant					
Columbia 93	NE	89	77 + 1 + 5 + 4 + 2	1	\$ 199,989
Blue Springs R-IV	NW	89	74 + 2 + 5 + 3 + 5	3	184,346
Arcadia Valley R-II	SE	85	72 + 3 + 5 + 4 + 1	1	200,000
Eldon R-I	SW	91	80 + 3 + 3 + 3 + 2	1	192,192
2 nd Priority: quadrant					
Nixa R-II	SW	85	70 + 2 + 5 + 4 + 4	2	196,465
3 rd Priority: score					
Ritenour/Ferguson-Florissant	NE	88	74 + 3 + 3 + 5 + 3	2	199,692

* Scores: Narrative + Free-Reduced Lunch + Previous Funding + Annual Yearly Progress + Technology

GRANTS / DISTRICTS APPROVED

Table 15 summarizes the FY10 Title II.D and ARRA-funded competitive grant allocations. These allocations/awards were finalized based on the revised state awards. As mentioned before, the state grants were revised during the year because of changes to the bypass contractor administration amounts.

Students enrolled in Missouri private and independent schools that are located in districts receiving one of the Title II.D grant funds also receive Title II.D program benefits. These funds bypass DESE and are administered by the Missouri Independent & Private Schools Education Technology Center (MIPS-ET).

Table 15
Missouri Title II.D Competitive Grant Programs – Final Allocations

Program	Grant Type	School District	District Allocation	Nonpublic Allocation	TOTAL
Title II.D	Year 2 eMINTS	1. E. Newton Co. R-VI	\$112,015	NA	\$112,015
		2. Fulton 58	\$118,223	\$4,468	\$122,691
		3. Hancock Place	\$148,807	\$32,220	\$181,027
		4. Putnam Co. R-I	\$127,750	NA	\$127,750
		5. Richmond R-XVI	\$99,774	NA	\$99,774
		6. School of the Osage	\$130,000	NA	\$130,000
		7. Sullivan	\$106,155	\$5,308	\$111,463
		8. Westran R-I	\$130,175	NA	\$130,175
	Year 1 eMINTS	Sub-total	\$972,899	\$419,96	\$1,014,895
		9. Gasconade Co. R-I	\$355,155	\$44,773	\$399,928
		10. Jefferson City	\$338,199	\$109,379	\$447,578
		Sub-total	\$693,354	\$154,152	\$847,506
ARRA	eMINTS	1. Cassville R-IV	\$423,395	NA	\$423,395
		2. North Kansas City 74	\$413,151	\$30,843	\$443,994
		3. Cameron R-I	\$406,840	NA	\$406,840
		4. Lebanon R-III	\$326,061	NA	\$326,061
		5. Sedalia 200	\$402,426	\$44,844	\$447,270
		6. Wellston	\$247,354	NA	\$247,354
		7. Sikeston R-VI	\$424,577	\$8,940	\$433,517
		8. St. Louis City	\$414,865	\$105,845	\$520,710
	Other Models	Sub-total	\$3,058,669	\$190,472	\$3,249,141
		9. Columbia 93	\$199,989	\$13,919	\$213,908
		10. Nixa R-II	\$196,465	NA	\$196,465
		11. Arcadia Valley R-II	\$200,000	NA	\$200,000
		12. Blue Springs R-IV	\$184,346	\$9,331	\$193,677
		13. Eldon R-I	\$199,995	NA	\$199,995
		14. Ritenour * Ferguson-Florissant R-II *	\$99,846	\$5,769	\$105,615
		Sub-total	\$1,180,487	\$43,059	\$1,223,546
		TOTAL	\$5,905,409	\$429,679	\$6,335,088

* Two-district Partnership Grant

Table 16 details the funded districts according to select demographics/characteristics. Districts are listed in rank order based on size (student enrollment or ADA) and by program and grant type. The bottom row indicates the typical district (the median district per data type). As shown in the table, the typical Title II.D and/or ARRA competitive grant recipient for 2009-2010 is comparable to the average Missouri district in terms of location (locale codes 6 and/or 7) and school poverty. However, funded districts are larger than the typical Missouri district in terms of student enrollment and certificated staff.

Table 16
Missouri Title II.D Competitive Grant Programs – District Characteristics

Districts	Urban/Rural Location ¹	Students (ADA) ¹	Certificated Staff ²	Poverty Percent ¹	Non-Public Population ³
Title II.D eMINTS Grants					
Westran R-I	7	578	77	24.29	NA
Putnam Co. R-I	7	775	92	22.99	NA
Gasconade R-I	6	1049	116	11.62	1 = 133
Richmond R-XVI	3,8	1592	154	12.47	NA
East Newton R-VI	8	1641	147	26.28	NA
Hancock Place	3	1728	153	14.91	1 = 367
School of the Osage R-II	7	1765	160	23.54	1 = 11
Sullivan	3	1933	194	15.84	1 = 100
Fulton 58	4	2110	2198	16.06	2 = 102
Jefferson City	2,4	7352	633	12.61	8 = 2663
ARRA eMINTS Grants					
Wellston	3	513	69	37.09	1 = 0
Cassville R-IV	6	1878	178	23.43	NA
Sikeston R-6	6,7	3440	346	23.96	3 = 73
Sedalia 200	6,7	4164	383	18.53	2 = 497
Lebanon R-III	6,7	4211	338	17.61	NA
Cameron R-I	3,8	1735	151	14.34	NA
North Kansas City 74	1,3,8	16538	1506	8.54	12 = 1335
St. Louis City	1	24813	2637	31.21	44 = 8216
ARRA Other Instructional Model Grants					
Arcadia Valley R-II	7	1102	110	30.61	NA
Eldon R-I	6	1775	172	21.45	NA
Nixa R-II	4	5043	445	13.04	NA
Ritenour	3	5880	447	16387	3 = 366
Ferguson-Florissant	3	11191	993	1503	8 = 1652
Blue Springs R-IV	3	13179	1063	7.5	5 = 693
Columbia 93	2,4,8	15885	1625	13.44	12 = 1188
Missouri State Medians	7	588	78	18.50	(150 LEAs) 2 = 350

¹ Source: DESE 2009-2010 Small Rural School Achievement Program and Rural Low-Income School Program: <http://dese.mo.gov/divimprove/fedprog/financialmanagement/documents/MQ-09InitialEligibilitySpreadsheet-Web.pdf>

² Source: Missouri School Directory 2009-10: <http://dese.mo.gov/directory/>

³ Source: DESE Nonpublic Information Report:
<http://dese.mo.gov/divimprove/fedprog/financialmanagement/Nonpublicindex.html>

FUNDS BUDGETED AND EXPENDED

Funds Budgeted

The eMINTS grant awards are set at amounts sufficient for schoolwide projects to support a cadre of educators as they participate in their appropriate eMINTS professional development program. During Year 1, approximately 50 percent of the grant awards are budgeted for teacher workstations and student computers, enough for one computer per every two students in elementary classrooms and either two or one-to-one in middle and high school classrooms. Approximately 30 percent of the

funds support teacher professional development (teacher training stipends, travel, substitutes for all-day professional development events, contract with eMINTS to provide professional development, and the teacher laptop, software, and Internet connectivity required to complete the training). The remaining twenty percent covers material and supplies, software purchases, equipment (with unit prices over \$1,000), and local evaluation. Over 70 percent of the Year 2 costs are professional development related, as equipment needs (other than maintenance, repair, and replacement costs) are met in the first year.

Budgets for the ARRA Other Model grants varied by project. Three of the grants proposed district-based eMINTS projects, modifying the eMINTS professional development to fit the needs of the districts and to fit a one-year implementation. [As previously mentioned, the ARRA Other Model grant schools were informed that another year of funding would only be made available in 2010-2011 if there was sufficient funding.] These grants budgeted 30 percent of the funds for professional development, which is very similar to the official eMINTS grants.

The other three ARRA Other Model grants focused on different topics: to integrate technology into the 6-Traits Writing process, to develop technology-enhanced formative and summative assessments, and to integrate technology into high school social studies classrooms via video storytelling projects. Compared to the eMINTS grants, these projects budgeted more for purchased services and less on capital outlay; otherwise, expenditures resembled the other grants.

Funds Expended

In previous years, expenditure rates hovered at/above 97 percent. In 2009-2010, districts spent less than 93 percent overall, and dropped to 91 percent for the eMINTS districts. As detailed in Table 17, ARRA Other Model grants had the highest rate at 99 percent – which is not surprising since these were one-year grants with smaller awards than the eMINTS grants. The Title II.D eMINTS grants had the next highest rate at 93 percent – with the smaller Year 2 grants coming in at 95 percent. Last were the ARRA eMINTS grants with an expenditure rate under 90 percent.

Table 17
Missouri Title II.D Competitive Grant Programs – Expenditure Rates

Program	\$ Budgeted	\$ Expended	% Spent
Title II.D eMINTS	\$1,666,253	\$1,552,942	93.2%
ARRA eMINTS	\$3,058,669	\$2,742,255	89.7%
ARRA Other	\$1,180,487	\$1,163,930	98.6%
Total	\$5,905,409	\$5,459,127	92.4%

Three factors likely explain the eMINTS project expenditure rate decreases.

4. One of the two districts with new Year 1 Title II.D grants spent only 81 percent of its budgeted funds. The district explained that the local eMINTS trainer was able to keep training costs down and that the equipment costs were lower than previously quoted.
5. One of the ARRA eMINTS grants was for a district that had been provisionally accredited and the state decided, mid-year, to close the district at the end of the school year. With this outlook and two break-ins where eMINTS classroom equipment was stolen, the project was shut down prior to the end of the fiscal year.
6. All of the ARRA eMINTS grants came in under budget as a result of the timing when the state award was finalized. The state withheld a portion of the allocations while the bypass contract was being negotiated. The bypass contract administration amount for the ARRA

program was less than the withhold, but districts didn't have enough time between May 27 and the end of June to spend all the funds.

PROJECT DESCRIPTIONS AND POPULATIONS SERVED

eMINTS Model Grants

A typical school-wide eMINTS project involves a cadre of teachers completing the extensive two-year Comprehensive eMINTS professional development program; the eMINTS' flagship program awarded the ISTE Seal of Alignment demonstrating full alignment with current National Educational Technology Standards for Teachers. Projects also usually involve other educators who participate in other role-specific eMINTS professional development programs, based on the school's specific educational needs and the project's focus and design, to better serve building communities of practice.

Following is a brief description of the eMINTS professional development programs appropriate for Title II.D grant funding. Note that the Year 1 and Year 2 professional development schedules for the Comprehensive and eMINTS4All programs are provided in the Appendix G report "FY09 eMINTS Teacher Literacy Skill Survey."]

- Comprehensive eMINTS (grades 3-12) professional development prepares teachers in classrooms equipped with the full suite of eMINTS-required hardware and software with the knowledge and skills needed to fully implement the eMINTS instructional model in their classrooms. This two-year program involves 9-10 classroom visits each year and a total of more than 250 contact hours (delivered face-to-face and online) following a clearly defined set of experiences with a specific scope and sequence using set material maintained in a web-access controlled environment.
- eMINTS4All (grades K-12) is designed to supplement official classrooms in schoolwide implementations, where classrooms have a smaller suite of hardware, helping teachers in the grades prior to eMINTS to understand the cognitive, social and technological skills their students will need to be successful in eMINTS, and helps teachers in other subject areas or in following grades to understand skills of their eMINTS-experienced students. This two-year program provides a subset of the comprehensive professional development, involving 90 contact hours, with 8-9 classroom visits per year.
- eMINTS for Educational Technology Specialists (PD4ETS) is a two-year "train-the-trainer" program that includes a rigorous certification process with significant levels of support from eMINTS staff both on-site and off. Successful completion of the certification process allows participants to deliver eMINTS professional development to school or district educators for an annual access fee.
- eMINTS for Administrators (eMINTS4Admin) is a one-year program to provide school and district administrators with the knowledge, skills and support needed for a successful schoolwide eMINTS implementation. Participants complete a day-long, face-to-face session, followed by two online webinars and an on-site school visit by an eMINTS staff member or consultant to complete a "walk-through" of the district's eMINTS implementation.
- eMINTS for Technology Coordinators (eMINTS4Techs) sessions provide district and/or building technology coordinators and other technical staff with the knowledge, skills and support needed for a successful eMINTS implementation. The program involves a two-hour online session in the fall and continues throughout the year via online collaboration tools.

Following is a brief summary for each of the 18 eMINTS implementation grants:

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton (Granby and Stella) – Two elementary schools involving 11 teachers (6 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 260 students, grades 4-5, focusing on all core content (communication arts, mathematics, science, and social studies)

Fulton – Three elementary schools involving 26 teachers (9 Comprehensive eMINTS and 17 eMINTS4All classrooms) and 463 students, grades K-5, with a focus on communication arts and mathematics

Hancock Place – Middle school project involving 15 teachers (10 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 410 students, grades 6-8, focusing on communication arts, mathematics, and science

Putnam County (Unionville) – District implementation involving 15 teachers (12 Comprehensive eMINTS and 3 eMINTS4All classrooms) and 521 students, grades 4-12, with a focus on communication arts and science teachers

Richmond – Elementary school involving 13 teachers (7 Comprehensive eMINTS and 6 eMINTS4All classrooms) and 274 students, grades 4-5, focusing on all content areas

School of The Osage – Elementary school project involving 22 teachers (5 Comprehensive eMINTS and 17 eMINTS4All classrooms) and 413 students, grades 3-5, with a focus on communication arts and mathematics

Sullivan – Upper elementary project involving 10 teachers (5 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 432 students, grades 4-6, focusing on all content areas

Westran – Middle school implementation involving 5 teachers (2 Comprehensive eMINTS and 3 eMINTS4All classrooms) and 145 students, grades 6-8, with a focus on communication arts and mathematics

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – High school project involving 12 teachers (7 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 417 students, grades 9-12, all content areas

Jefferson City – Elementary school involving 25 teachers (7 Comprehensive eMINTS, 9 eMINTS4All classrooms, 1 Special Education and 7 Other) and 307 students, grades K-5, focusing on all content areas

ARRA YEAR 1 eMINTS GRANTS

Cameron – Elementary and middle school implementation involving 18 teachers (9 Comprehensive eMINTS and 9 eMINTS4All classrooms) and 625 students, grades 4-8, focusing on all content areas [Note: numbers include grant- and district-supported eMINTS teachers]

Cassville – Intermediate elementary and middle schools involving 22 teachers (12 Comprehensive eMINTS and 10 eMINTS4All classrooms) and 528 students, Grades 3-6, focusing on all content areas

Lebanon – Two elementary schools involving 16 teachers (4 Comprehensive eMINTS and 12 eMINTS4All classrooms) and 774 students, grades 4-6, focusing on communication arts, mathematics, science, and technology

North Kansas City – Four elementary schools involving 24 teachers (24 Comprehensive eMINTS) and 960 students, grades 3-5, focusing on all content areas

Sedalia – Elementary school project involving 16 teachers (7 Comprehensive eMINTS and 9 eMINTS4All classrooms) and 350 students, grades 2-4, focusing on all content areas

Sikeston – Middle school involving 11 teachers (11 Comprehensive eMINTS classrooms) and 520 students, grades 5-6, focusing on all content areas

St. Louis City – High school implementation involving 9 teachers (9 Comprehensive eMINTS) and 260 students, grades 9-12, focusing on all content areas

Wellston – Elementary school project involving 6 teachers (6 Comprehensive eMINTS classrooms) and 140 students, grades 3-5, focusing on communication arts and mathematics

Table 18 lists participants in the two-year eMINTS teacher professional development programs. A total of 269 classrooms teachers received eMINTS training in 2009-2010: 154 in Comprehensive eMINTS, teaching 4,678 students and 115 in eMINTS4All teaching 3,761 students. Participating teachers and students most commonly were found in grades 3 to 5.

Table 18
eMINTS Model Grants – Participating Teachers and Students by Grant Type, Grant Year,
Professional Development Program, and Grade Levels

Program	Grant Year	eMINTS PD	K-2		3-5		6-8		9-12		Totals	
			T	S	T	S	T	S	T	S	T	S
Title II.D	Year 1 [N=2]	Comprehensive			7	153			7	385	14	538
		Comprehensive Replacement										
		for All	9	177					5	385	14	562
	Year 2 [N=8]	Comprehensive			33	713	20	896	3	209	56	1,818
		Comprehensive Replacement			2	40					2	40
		for All	6	121	31	600	24	738			61	1,459
	Sub-total [N=10]	Comprehensive			40	866	20	896	10	594	70	2,356
		Comprehensive Replacement			2	40					2	40
		for All	15	298	31	600	24	738	5	385	75	2,021
ARRA	Year 1 [N=8]	Comprehensive			69	1,637	4	315	9	330	82	2,282
		Comprehensive Replacement										
		for All	9	300	25	980			6	460	40	1,740
TOTAL [N=18]	Comprehensive				109	2,503	24	1211	19	924	152	4,638
	Comprehensive Replacement				2	40					2	40
	for All	24	598	56	1,680	24	738	11	845	115	3,761	

T = Teachers and S = Students [Note: duplicate reporting of students is likely in some instances.]

Table 10 lists the numbers of educators participating in other eMINTS professional development programs. The eMINTS for Administrators program served 26 building principals and central office administrators. The eMINTS for Techs served 12 district or building technical directors, and 9 educators participated in the train-the-trainer program eMINTS for Educational Technology Specialists (PD4ETS).

Table 19
eMINTS Model Grants – Other eMINTS Professional Development Participants by Grant Type, Grant Year, Professional Development Program, and Building Levels

Program	Grant Year	eMINTS PD	K-5	6-8	9-12	District	Total	
Title II.D	Year 1 [N=2]	Administrators	2		1		3	
		Technology Directors	2			1	3	
		Ed-tech Specialists						
	Year 2 [N=8]	Administrators	4	6	1	2	13	
		Technology Directors		1		5	6	
		Ed-tech Specialists		1		4	5	
	Sub-total [N=10]	Administrators	6	6	2	2	16	
		Technology Directors	2	1		5	8	
		Ed-tech Specialists		1		4	5	
ARRA	Year 1 [N=8]	Administrators	9	1			10	
		Technology Directors	2			2	4	
		Ed-tech Specialists		1		3	4	
TOTAL [N=18]		Administrators	15	7	2	2	26	
		Technology Directors	4	1		7	12	
		Ed-tech Specialists		2		7	9	

Other Model Grants

Following is a brief description of the six ARRA Other Instructional Model competitive grant projects:

Arcadia Valley (Ironton) “Assess for Success” – 27 teachers and staff and 359 students, grades 9-12

- High school implementation project is providing technology-rich classrooms and professional development for all high school staff to raise student achievement via effective formative and summative assessment. Through analysis of assessment data, teachers are able to prescribe for remediation and enrichment and provide project-based learning activities for course content mastery.

Blue Springs “Writing Classroom Labs” – 18 core teachers in four elementary school buildings and 328 students, grades K-5

- Students in low-achieving elementary schools are improving their writing and technology skills as a result of teacher participation in job-embedded professional development targeting 6-Traits Writing in a technology-rich environment. One teacher per grade level and building are trained to serve as the Writing Classroom teacher, working with other teachers in their grades levels and buildings (eventually impacting 63 teachers and 1,139 students).

Columbia “Fostering Learning with EnTICE” – 16 teachers and 440 students, grades 6-7

- Middle school “Enhancing Technology Instruction in Classroom Environments (EnTICE)” project gives teachers a systemic, comprehensive way to foster critical thinking skills which, in turn, leads to improved student achievement. EnTICE professional development integrates key components of the eMINTS instructional model.

Eldon “Rigor, Relevance & Relationships” – 21 teachers and 295 students, grades 7-8

- Middle school project builds on the district’s eMINTS implementation at grades 4-6, supporting students as they move through grades 7-8. The project provides technology-rich classrooms and professional development for teachers to learn how to use the technologies and implement inquiry-based instructional strategies by participating in professional development based on the eMINTS4All model.

Nixa “Eagles Take Flight into 21st Century” – 39 teachers and 830 students, grades 5-6

- Project enhances teaching strategies and increases student achievement in mathematics, communication arts, and technology literacy. Professional development assists teachers as they increase their use and understanding of technology literacy and inquiry-based instructional strategies based on the eMINTS instructional model and training modules.

Ritenour and Ferguson-Florissant “Digital Storytelling in High School Social Studies” – 10 teachers and 250 students, grades 11-12

- Project involves social studies teachers from two district high schools, collaborating on student digital storytelling assignments. Professional development uses a research-based model from McREL’s *Using Technology with Classroom Instruction that Works*, Bernajean Porter’s *Grapplings Spectrum of Technology Integration*, and the BJC HealthCare School Outreach and Youth Development’s *Factoring in Forgiveness*.

Table 20 indicates that the ARRA Other Model Instructional grants serve 131 teachers and 2,461 students. Over 40 percent of participating teachers and students are in middle school settings.

Table 20
Other Instructional Model Grants –
Total Number of Teachers and Students by Grade Levels

	K-2	3-5	6-8	9-12	Totals
Teachers	9	29	56	37	131
Students	160	590	1,102	609	2,461

TECHNICAL ASSISTANCE, MONITORING, AND EVALUATION PROCESS

Competitive grant recipients/projects participate in a number of technical assistance, monitoring, and evaluation activities. Research and evaluation is conducted both at the program (state) level and at the project (local) level, with both including formative and summative assessments. In total, evaluation costs are estimated to exceed seven (7) percent of the competitive sub-grant program’s flow-through funds.

Department and eMINTS staff where appropriate meet with district teams several times a year to address reporting and evaluation requirements, monitor progress, share success stories, and provide technical assistance. For the eMINTS grants, this begins with an Orientation event in the summer, followed by professional development contact hours and on-site visits, Leadership

meetings (face-to-face and via Elluminate), mid-year progress reports, assisted principal walk-throughs [initiated in 2007-08], end-of-year technology surveys and project reports, end-of-project report, and a winter mini-conference for teachers completing their second year of professional development. DESE hosted fall and spring webinars for the ARRA Other Instructional Model grants to cover similar topics.

Each grant project receives at least one on-site monitoring and technical assistance visit by DESE Instructional Technology staff. A regional eMINTS staff person also participated in the eMINTS project monitoring, which typically occurs either near the first year or the beginning of the second year of the grant. In 2009-2010, over half of the eMINTS and all of the ARRA Other Instructional Model grants received monitoring.

EVALUATION REQUIREMENTS

Local Project Requirements

Both eMINTS and the Other Instructional Model grant programs required grant recipients to allocate five (5) percent of their grant funding for project evaluation and strongly encouraged to contract external evaluators. DESE staff and eMINTS staff as appropriate met with project contacts and external evaluators to go over the reporting requirements, issue guidance documents, and provide technical assessment as needed.

Grant recipients are to submit annually a Mid-Year Progress Narrative (due January 31) and a Program Evaluation Narrative Reports (due June 30). At the end of the project, grant recipients must also file a Final Evaluation Report (due September 30). The annual reports document what occurred during that year of the grant in terms of inputs and outcomes; the final report provides a pre-post project analysis of the project. eMINTS projects submit final reports after the end of the second year of the grant – eMINTS grants first funded in 2009-2010 will submit final project reports in September 2011. While the ARRA Other model grants were funded for one year only, they will also submit final project reports in 2011 to further document project impact.

eMINTS Program Evaluation Components

A portion of the fees paid to the eMINTS National Center is used to support research and evaluation activities. The Center uses various data to determine efficacy and effectiveness of its professional development programs, in terms of the content covered and who and how the professional development is provided. In 2008, the Education Development Center , Inc. (EDC) Center for Children and Technology (CCT) completed its studies to examine eMINTS program fidelity, create a teacher portfolio submission and scoring process, and examine Missouri Assessment Program (MAP) data to identify the key elements related to student achievement. Participating teachers must agree to complete satisfaction and literacy skill surveys, and teachers completing Comprehensive and eMINTS4All professional development must submit portfolios for review. Schools must also agree to submit teacher and student rosters and MAP data on request.

COMPETITIVE PROGRAM EVALUATION

eMINTS Mid-Year Progress Reports (January 2010)

Grant recipients are asked to complete annual mid-year progress reports as a monitoring and formative assessment measure. Project contacts respond to four general questions that ask what is working well and not working well and what the biggest benefits and challenges are in implementing the projects, and asked to provide additional comments as appropriate.

A review of the responses indicates the grant implementations are operating smoothly, that teachers – while overwhelmed with the time commitment – are pleased with the knowledge and skills they are acquiring through their professional development activities, and that students are excited about using the classroom technology. As expected, there also are comments about challenges. Knowing about such issues early in the program provides Instructional Technology, eMINTS, and district staffs ample opportunity to make mid-program corrections.

Following is a summary of typical mid-year progress report responses and/or responses that address unique situations.

1. How has the eMINTS professional development program, including classroom visits, progressed to date?

Teachers in both years of professional development have commented on the effectiveness and organization of the eMINTS trainers/training. The on-site classroom visits have been very effective. Teachers appreciate the schedule and sequence of the sessions and the consideration of their other commitments when planning these. [Year 2 grant]

Teachers have readily embraced the eMINTS components and worked hard to incorporate them... Frequent visits from the district trainers have become a vital and necessary support for the teachers, and the district has devised a system to let the teachers “request” the topic(s) of the visits. This has helped guide the district trainers and make them more productive. [Year 2 grant with a district trainer]

Professional development has been very successful. We were able to align the local professional development schedule with the eMINTS program to provide training during the day and limit out-of-contract time for workshops and instruction. This has worked very well for teachers and administration. We are also hosting some neighboring school personnel [in training] that has added to the collaboration opportunities. Our facilitator is prompt, organized, efficient, and extremely teacher centered. The training is very intense and comprehensive. Teachers are engaged and are quick to share their learning with each other and other teachers. Realizing that there are many things that need to be accomplished with each module I believe that eMINTS does a good job...an excellent job, in ensuring teachers are prepared to implement and improve instruction through the use of technology. [Year 1 grant]

2. How have technical problems/needs been addressed? Are they being resolved in a timely manner?

Technical problems have not been as much of an issue as anticipated. Our largest issue is connecting a certain classroom to the wireless access point. We have been troubleshooting for weeks and have called in an outside source to help. The teacher has been patient and we have made every effort to meet her needs.

One teacher reports, “Technical problems have not been abundant for me. When I have needed anything, I start by going straight to the eMINTS advisor, and she is always able to answer me quickly or direct me to the person that I need to talk to. It is a very quick turn-around and very helpful when dealing with student technical issues, especially.”

Our trainer states, "Technical problems have not really started just yet. Computers were distributed earlier this month. Students needed logins, computers downloaded, etc and the processes that are in place worked as desired and we did not have any concerns that were not immediately fixed. The communication lines between teachers and trainers are open and trainers to IT department. No problems as of yet."

3. What has been the biggest challenge for participants (teachers, administrators, technical contacts) in eMINTS professional development? For non-participants?

One of the big challenges we faced was the lack of a solid wireless Internet signal in the middle school. With lots of extra time and money that was not budgeted in the grant, our maintenance director and technology coordinator have developed a working resolution to the problem.

Time, plain and simple. It just seems one more thing for many of our teachers, who are simultaneously teaching, tutoring, coaching, etc. The job of a teacher never ends. But this program is seen as a benefit and something that will change practices in the classroom.

Year One Participants state "The biggest challenge has been finding the time to process all the wonderful knowledge and new concepts we are being taught in eMINTS and figure out how it will work in my classroom." Another teacher comments, "The biggest challenge for me has been going from having no technology in my classroom to having very important pieces of technology. I have very limited knowledge in the area of technology, so I feel overwhelmed learning how to use it."

A Year Two teacher states, "the eMINTS program is sometimes overwhelming to parents if they do not have internet access at home. They are concerned that their student will be behind. I try my best to assure them there will be no computer homework and that they will definitely catch up to where they should be."

4. What has been the greatest benefit of the program?

By far, the greatest benefit is the professional development and the resulting influence on the excitement and learning potential of students. Students are becoming more responsible for their learning while they are more active participants. Teachers and students are showing more enthusiasm and positive performance. Teachers noted the professional development that has taught them newer ways of teaching, learning and the implementation of technology to assist students in inquiry based learning. They also noted that the concepts have made them more of a team, and enhanced the teaching environment.

The list would be quite long! Additional training for our staff is at the top of the list. It is easy to become isolated in your own classroom, not to mention in your district. Collaboration between eMINTS participants in our district and with other districts is quite evident and valuable. Conversations between teachers now focus on teaching and how to best instruct. eMINTS training has "forced" togetherness and therefore our teachers are truly a team. This experience has united our 4th and 5th grade

teachers, along with our “new” addition of special education. Training has also brought us other districts’ knowledge and strategies being used outside our walls. Our educational world has literally expanded beyond what can be measured.

The greatest benefit of the program is implementation of the eMINTS instructional strategies. “traditional” methods of instruction. Participating students are beginning to take the initiative to find answers to their questions. The classroom computers empower students as they seek answers and solutions. Students are taking more ownership of their education. They are eager to walk into the classroom and begin learning. At recent technology meetings, I witnessed a shift in expectations for student and teacher technology. Discussions centered on what teachers must know and be able to do to effectively implement technology in instruction. The concept of problem-based learning coupled with student-centered technology has replaced conversations about computer labs and “keyboarding”. The problem has shifted from teachers needing to learn administrative programs to teachers and PLCs needing to embed technology skills and inquiry based lessons in core curriculum.

This question makes me smile and I wish I could include video snippets to show the benefits of this program. The looks and sounds in the classrooms have changed...excitement in teachers’ and students’ voices and actions...the growing sense of community within classrooms...the growth and confidence of some teachers as they become more comfortable with technology...a shift from teacher-led to student-directed learning.

eMINTS End-of-Year Program Evaluation Narratives

Grant recipients submit end-of-year program evaluation narratives (PENs) that serve to provide formative and summative information about the grant projects. Like the mid-year progress report, districts first respond to a set of formative questions that deal with program implementation: how the professional development sessions are progressing, the most beneficial and most challenging aspects of implementing the projects, and how eMINTS is changing how teachers are teaching and students are learning. The PEN also collects summative impact data related to numbers of teachers and students served, and reports district progress toward meeting annual project objectives. Following are brief descriptions of the information and data submitted via the competitive grant end-of-year program evaluation narratives for 2009-2010. See Appendix G for the extensive PEN summary report.

Narrative Responses- Project Benefits

The Project Benefits items mirror those asked in the January Mid-year Program Reports. Districts described how the grant projects are making a positive difference in teaching and learning in the participating buildings/districts, with professional development and instructional support being the most successful activities.

Narrative Responses- Project Outcomes

Grants recipients must report on the progress toward meeting their project objective for 2009-2010. At a minimum, districts report on objectives related to improvements in student academic achievement and tech literacy skills and in teaching strategies and technology integration skills. Table 21 summarizes the objectives established by the objectives and their status toward meeting the objective by June 30, 2010. The Student Learning Objectives include: Communication Arts, Reading, Writing, Mathematics, Science, Social Studies, Student Engagement, Student Technology Literacy skills, and Attendance. Teaching Objectives include

Inquiry-based Learning, Technology Integration, and Teacher Technology Literacy skills. M indicates the objective was met at the level the district expected, P indicates the objective is in progress and likely will be met soon, and NM indicates the objective was not met at the level the district expected. Use of bold print indicates the district provided data to substantiate the outcome determination. Use of Italics print indicates the objective was met the previous year (applies to Year 2 grants).

As shown in Table 21, the eMINTS grants reported meeting 61 objectives: 12 student learning, 2 student engagement, 1 student attendance, 12 student technology literacy, 11 instructional practices, 11 technology integration, and 12 teacher technology literacy objectives. Further, the projects reported making progress toward another 27 objectives, with 14 related to learning and 12 related to teaching.

Table 21
eMINTS Model Grants – Outcome Objectives for 2009-2010

LEA	Student Learning Objectives										Teaching Objectives		
	CA	R	W	M	S	SS	SE	STL	Att	IBL	TI	TTL	
Year 2 eMINTS Grants													
East Newton	M			M					M		M		M
Fulton		<i>M</i>							M		M	M	M
Hancock Place		<i>M</i>	<i>M</i>					M	M		M	M	M
Putnam Co.	M	P						M			M		M
Richmond								M	M		M	M	M
School of the Osage	<i>M</i>							P	M	M	P	M	M
Sullivan		M						M		M	M	M	M
Westran		P						M		M	M	M	M
Year 2 Total Met	3	3	1	1				2	8	1	7	6	8
Year 1 eMINTS Grants													
Cameron	NM								P		P	M	M
Cassville				<i>NM</i>					M		M	P	P
Gasconade Co.	P							M		M	M	M	M
Jefferson City	M			M				M		M	M	M	M
Lebanon	NM			P	P			P		P	M		P
North Kansas City	P			P				P		P	NM	NM	
Sedalia	P			P				P		P			P
Sikeston	NM			M				P		P	P	P	
St. Louis City	P	M		P				M		M	M	M	
Wellston*	-	-	-	-	-	-	-	-	-	-	-	-	-
Year 1 Total Met	1	1		2				4		4	5	4	
Total Met = 61	4	4	1	3				2	12	1	11	11	12

* Outcome objectives are not reported as the district was closed in May 2010 and the project did not complete a full year of implementation.

ARRA Mid-Year Progress Reports (January 2010)

Competitive grant recipients submit mid-year progress reports as a monitoring and formative assessment measure. The mid-year report asks project contacts to respond to four general questions about what is working well and not working well and the biggest benefits and challenges in implementing the projects, and to provide additional comments as appropriate.

Following is a compilation of mid-year progress report responses. A review of the responses indicates that the grant implementations are operating smoothly, that teachers and administrators are pleased with the knowledge and skills being acquiring through the professional development activities, and that students are excited about using the classroom technologies. As expected, there also are comments about some challenges; knowing about them early in the program allows Instructional Technology and district staffs to have ample opportunity to make mid-program corrections.

1. How has the project's professional development program, including classroom visits, progressed to date?

Professional development has been rather aggressive. The initial professional development is almost complete with some make-up work for a couple teachers still to be accomplished. The majority of the equipment has been purchased and installed. There were a couple high school teachers of non-core subjects who have not participated in the program, and they have been replaced by middle school teachers in core areas who will prepare in-coming 9th-graders to be better prepared for the daily formative assessment and summative benchmark assessment process. Teachers are using the equipment to assess students and are beginning to change instruction using the technology to achieve their class objectives. The regional professional development center met with each core area for two days of expanded training using the technology assessment process and how on how to allow more student use of the technology.

The Writing Lab Classroom teacher-leader cohort group was selected, enabling training to begin in September as scheduled, focusing on technology integration and 6-trait writing process and resulting in the initial movement on the C-BAM change process continuum in how teachers view and implement the writing process with students.

Three [lead] staff completed all four of the first semester days of technology training with the eighteen cohort teachers, addressing procedures for operating the new equipment purchased for this project (both project-funded equipment as well as district-funded equipment purchased in support of the grant). Training focused on the new desktop machines with updated Microsoft Office software, netbooks, scanners, electronic whiteboards, digital cameras, and color printers. Training also included quarterly lesson planning centered on the integration of technology into everyday writing blocks and how to use new technology programs that include Kidspiration, Inspiration and Voice Threads. In order to provide ongoing support and coaching, the technology trainer has a rotating schedule with the three grant buildings to ensure teachers are supported when using the desktops and netbooks and when training their students on the new technology software programs. This on-demand support has proven to be a critical element in the success of the project to-date.

To determine impact of this professional development, the project is collecting data addressing the following questions:

- Are teachers suitably proficient and familiar with technology and 6-Traits Writing to strategically incorporate effective uses and practices into their classroom and professional practices? How are they acquiring such proficiencies?
- Are teachers skilled in designing standards-based lessons that maximize the impact of technology on learning and promote the development of 21st century technology and writing skills?
- Do teachers have strategies for evaluating technology-supported student writing?

- Do teachers use technology to informally and formally participate in professional development opportunities?
-

The professional development has been very successful this year, with participating teachers having attended 5 sessions of training led by the district eMINTS trainers. Each session focused on best instructional practices and technology integration, using eMINTS modules and activities during the sessions and teachers able to take what they learned and immediately use it in the classroom. The nine teacher leaders also attended day long trainings addressing more in-depth knowledge and technology tools. They have then gone back to their schools and shared the lessons, resources, and ideas with their teammates. The leaders have also served as resources for trouble shooting technology issues.

Two sets of classroom visits have been made so far this year. The first set in the fall were mainly modeled lessons for the classroom: most teachers wanted the trainer to do a technology lesson using something from their curriculum, while a few chose to have a one-on-one class visit to plan or trouble shoot issues. The second round of class visits were more informal and the trainer dropped in on each teacher to check progress, answer questions, and observe the students at work.

2. How have technical problems/needs been addressed? Are they being resolved in a timely manner?

Most teachers do not report any problems either that the idea that equipment can during the year and not at the start. At first it was somewhat disruptive to install the equipment and as teachers started using it. Most report that equipment use has improved and learning is improving.

All challenges so far have been resolved in timely manner.. However, it has taken us more time than we anticipated making sure all issues were resolved. Examples follow. The time delay due to grant funds disbursement was resolved by moving up agenda by one month. Teacher attitudes at one school were negative, complaining about lack of technology support and validation for their efforts. After the principal was contacted, he spoke to the department chair and addressed each issue directly with the teachers. Participation online in the Moodle forums was low at first, but increased after revisiting the grant deliverables and with the teachers. Still trying to work out coaching and other obligations that continue to affect some teachers' participation in the professional development (i.e., having to leave early), and worked with spoke with teachers about better class reflection discussion at the end of meetings.

3. What has been the biggest challenge for participants (teachers, administrators, technical contacts)? For non-participants in the participating schools (if appropriate)?

Several teacher report that "time" has been the biggest challenge, and receiving the equipment during the school year did not allow teachers the time to make changes as fast as they think possible. The only non-participants we have are from non-core areas of physical education, music, and some reluctance from a couple special education teachers (areas where student assessment is not easily measured through technology).

"The training schedule was very aggressive. While I definitely understand the need to get the training quickly so we can use the equipment sooner, the number of hours to complete within approximately 8 weeks was very taxing. However, now that it's over, I'm glad I have the ability to use the technology." "Creating new lessons while attending all the professional development has been hard, with time-management an issue." "I am using it now, but will use the equipment more next year after I've had the summer to work on making changes." "The time to fully implement the technology into instruction and assessment [is a challenge]."

The biggest challenge for participants has been time. As the cohorts began to learn more about technology and how it could be used to enhance writing lessons, they wanted more... more time to work with technology, more time to collaborate with cohort members and more time to create technology-based lessons. This is what the district was hoping for, but there was just not enough time in the four-day grant-scheduled training to allow for further of in-depth collaboration during school time. Teachers would have appreciated additional days of training away from their classrooms for discussion and to create new lessons. As a result, an additional challenge for this project is to develop strategies that take advantage of these new technologies to collaborate and share online.

As far as non-participants, there have not been any big challenges other than everyone wanting to be a part of this project. Second semester will enable additional teachers to benefit from the project by observing these Writing Lab Classrooms and participating in discussions with the project teachers. The challenge in the future will be to provide the additional technology to support the increase interest, confidence and skills that the teachers are gaining in terms of having technology being an effective and consistent part of the teaching and learning process instead of an "add-on."

Time management has been the biggest challenge, both the time management for those of us planning/delivering the professional development, and for the teachers themselves attending. We have struggled with providing teachers with enough work time to allow them to begin applying strategies and techniques covered during the training. There is so much information to give that it is hard to build in time for work with a one year program. For the teachers, there are so many demands on their time, and many of the teachers in this grant are leaders in different areas in the school, so some struggle with being able to attend all the trainings.

4. What has been the greatest benefit of the grant project?

Teachers are reporting changes in student interest. The formative assessment of daily "clear learning targets" and the summative assessment of benchmarks have begun, a process that will improve as our teachers learn how to write better assessments.

"The greatest benefit of the project is in student learning and achievement." "Incorporating the smart board and clickers into lessons has really increased student interest." "Quizzes and tests they would have completed in pencil/pen are now done with clickers...they think that's cool and I do to." "When I get this technology fully integrated into my instruction and assessment, it is going to revolutionize the way I teach." SmartBoards rock. I have so many more opportunities to present information or develop learning activities by using SmartNotebook and the SmartBoards." I like being

able to not have to return to my desktop to move through a program I have made or an Internet site—SmartBoard tools are very useful.” “I use the technology equipment every day in the classroom. I have created all my lessons on the SMART Board and I use clickers for various reviews and activities.” The technology is great to have available for student use in the classroom since it is difficult to schedule the reg. computer rooms.”

The greatest benefit to this program has been the influx of technology into our classrooms. Teachers and students are so excited about using the new equipment to enhance their writing curriculum. Another benefit to receiving this grant has been the change in mindset for our teachers. They are thinking about technology as they plan, asking themselves “How can technology enhance this lesson?” or “What technology can my student use to express their understanding of a certain task?” This way of thinking is something new for most of our cohort teachers. This grant has opened up a new way of teaching and a more effective way to reach each student.

As part of the project, cohort teachers will be open classroom doors in the second semester to their grade level peers to share what they have learned. Due to the interest, the District has also opened the professional development with Ruth Culham to all district teachers. These model classrooms, along with the increased access to training, will enable teachers that observe to not only restructure what they teach, but how to effectively integrate technology into the teaching and learning process.

In addition, while teachers greatly desire more formal professional development time and support outside the classroom as mentioned in the previous section, they are finding time in smaller groups to collaborate regarding both specific technology strategies as well as lesson design. This collaboration is taking place both in face-to-face sessions as well using electronic tools available to them.

The greatest benefit has been seeing the teachers actually apply the strategies used in the classroom. Even those who are less comfortable with the technology are starting to see what an asset the laptops can be to improving student learning. Attitudes are positive and teachers are willing to try new things. Being able to give teachers time to step away from the classroom and have conversations as professionals about teaching strategies and student achievement.

Additional comments:

“I am very thankful to have been included in this grant project. I believe that the technology will continue to help improve student achievement.” “The technology has been a great asset to my classroom.” This is my 15th year in this district, and during that time we have been fortunate to receive many grants. However, of all the grants the high school has benefitted from during my tenure here, this one is by far the most beneficial. The tech grant has enhanced classroom instruction and assessment.”

This project has effectively blended project resources with district resources to create a robust professional development initiative that addresses both technology and writing standards that reflect skills students need to effectively communicate their learning. This has enabled the District to emphasize with the three targeted schools that most in need of significant improvement that the District will provide additional resources and

that the District expects teachers to use more effective instructional practices and students to increase their learning.

The final thoughts prompted candid insights into the program and its implementation. While all were supportive of the training and new technology, several expressed caution, calling for more technology support but especially for extended training past this grant year. The extended training, they note, would enable them to more fully learn technology, how to integrate technology into teaching and thus more fully implement the changes intended through this professional development.

"To be able to truly integrate technology into the classroom, the staff will require additional training in the coming years. The training thus far has been introductory at best; many of the teachers require much more depth to become proficient users of technology." "I believe this grant will benefit both teachers and students. I don't believe it is anything that will happen in a snap. Like all changes there needs to be an implementation time." "I have learned many things so far that I wouldn't have without this professional grant."

ARRA End-of-Year Program Evaluation Narratives (June 2010)

Like for the eMINTS Model grants, recipients submit end-of-year program evaluation narratives (PENs) that serve to provide formative and summative information about the grant projects. Like the mid-year progress report, districts first respond to a set of formative questions that deal with program implementation: how the professional development sessions are progressing, the most beneficial and most challenging aspects of implementing the projects, and how technology and professional development are changing how teacher teach and student learn. The PEN also collects summative impact data related to numbers of teachers and students served, and reports district progress toward meeting annual project objectives. Following is a brief summary of the outcomes noted for 2009-2010. See Appendix G for the extensive PEN summary report for both eMINTS and Other Model grants.

Narrative Responses- Project Benefits

The Project Benefits items mirror those asked in the January Mid-year Program Reports. Districts described how the grant projects are making a positive difference in teaching and learning in the participating buildings/districts, with professional development and instructional support being the most successful activities.

Narrative Responses- Project Outcomes

Like for the eMINTS Model grants, the Other Instructional Model districts reported on objectives related to improvements in student academic achievement and tech literacy skills and in teaching strategies and technology integration skills. Table 22 summarizes the objectives established by the objectives and their status toward meeting the objective by June 30, 2010. The Student Learning Objectives include: Communication Arts, Reading, Writing, Mathematics, Science, Social Studies, Student Engagement, Student Technology Literacy skills, and Attendance. Teaching Objectives include Inquiry-based Learning, Technology Integration, and Teacher Technology Literacy skills. M indicates the objective was met at the level the district expected, P indicates the objective is in progress and likely will be met soon, and NM indicates the objective was not met at the level the district expected. Use of bold print indicates the district provided data to substantiate the outcome determination. Use of Italics print indicates the objective was met the previous year (applies to Year 2 grants).

As shown in Table 22, the six Other Instructional Model grants reported meeting 18 objectives: 8 student learning, 4 student technology literacy, 2 instructional practices, 1 technology integration, and 3 teacher technology literacy objectives. Further, the projects reported making progress toward another 7 objectives, with 4 addressing teaching and tech integration and 3 related to student learning.

Table 22
Other Instructional Model Grants – Outcome Objectives for 2009-2010

LEA	Student Learning Objectives										Teaching Objectives		
	CA	R	W	M	S	SS	SE	STL	Att	IBL	TI	TTL	
Arcadia Valley	M		M	M	M	M		P			P	M	
Blue Springs			P						M		M	M	
Columbia	M								M			M	
Eldon	M	M		M	M			NM				M	
Nixa	P	NM		P				M			M	P	
Ritenour/Ferguson		M				NM		M		M	P	P	
Sub-Total	3	2		1	1	1		4		2	1	3	

eMINTS PROGRAM EVALUATION REPORTS

Teacher Technology Literacy Skill Survey (May 2010)

A survey of technology literacy skills is completed by eMINTS Comprehensive and eMINTS4All teachers as they start their professional development and repeated when they complete their eMINTS professional development. The purpose of the survey is to determine teachers' self-reported levels of confidence in their technology skills as taught through eMINTS professional development. The survey was created by eMINTS instructional staff and is based on the scope and sequence of skills taught during each year of the program. The surveys are administered online using "Survey Monkey" tool and a Likert type response scale.

The 2010 Teacher Technology Literacy Skill Survey (TTLSS) report address responses for the eMINTS Comprehensive and eMINTS4All teachers that started in August 2008 and completed their programs in May 2010. This yearly report separates the cohort findings into Comprehensive eMINTS and eMINTS-4All, both of which are two-year professional development programs. With substantial programmatic differences, a separate accounting for each track is logical and appropriate. [The full report is provided in the Appendix and includes the professional development schedules for each of the Comprehensive and eMINTS4All programs.]

Comprehensive eMINTS

Training and portfolio

Four full days of in-service contact and one hundred contact hours are completed in Year 1 of the Comprehensive eMINTS professional development. In Year 2 seventy-five contact hours and 2 full days of in-service are completed. Thirty-seven modules are covered in eMINTS-CPD program over two years. To demonstrate a change in teaching a teacher portfolio is submitted by each participant before the end of the Year 2. Portfolio components include: creating a classroom website, writing and teaching a constructivist lesson plan, and writing and teaching a WebQuest. Student artifacts are submitted for the WebQuest and constructivist lesson plan.

Overall Results

The survey was completed by Comprehensive eMINTS teachers during both Year 1 and Year 2. Survey data was tracked by teacher to ensure the same population was compared with the pre and post surveys. An average score of 2.92 for all items was achieved on the pre-survey compared with an average score of 4.33 on the post-survey, an increase of 1.41.

Analysis of Topic Items Achieving Desired Average Mean Score on Pre-survey

The desired average end score for all teachers on each item was established at 3.5. eMINTS Table A below lists the items scoring above this level prior to teachers entering the eMINTS program. Teachers scored at or above this level on eight of the survey items prior to entering the program. The average score on these items from the pre-survey was 4.27 as compared to the post-survey at 4.83, an increase of 0.56. The eMINTS program provided improvement in self-reported skill level with skills teachers were familiar with when entering the program.

eMINTS Table A
Comprehensive eMINTS Pre-survey Topic Items Achieving Desired Average Mean Score

Topic	Fall 2008	Spring 2010
Email – Send email without attachments	4.76	4.98
Email – Send email with attachments	4.54	4.94
File management – move and delete files, set up folders	4.27	4.90
Create and save documents that include clip art	4.23	4.83
Format text including bullets, font, borders, cut, copy and paste	4.44	4.89
Create and publish a classroom newsletter (Microsoft Publisher or Word)	3.86	4.52
Create new presentations using my own or commercial templates (Microsoft PowerPoint)	3.72	4.71
Take photos with a digital camera	4.31	4.86
Average of Eight Items	4.27	4.83

Analysis of Topic Items Not Achieving Desired Mean Score on Pre-survey

The self-reported skill level for 23 items was below the desired 3.5 mean for teachers entering the program. Teachers rated themselves well above the desired level at the end of Year 2 in all but two items, both dealing with concept mapping software. Improvement was noted for all topics, with a pre-survey average of 2.44 compared to a 4.15 post-mean (an increase of 1.71).

eMINTS Table B
Comprehensive eMINTS Pre-survey Topic Items Not Achieving Desired Mean Score

Topic	Fall 2008	Spring 2010
Use online tools to save sites	2.84	4.19
SMART Board/Interactive Whiteboard – presentation tool	3.04	4.66
SMART Board/Interactive Whiteboard – collaboration tool	2.86	4.57
SMART Board/Interactive Whiteboard – demonstration tool	2.78	4.51
SMART Board/Interactive Whiteboard – advanced features	2.40	4.16
Microsoft Word/Word processing – create and use templates	3.42	4.32
Publish presentations to the Web	1.94	3.92
Import videos/charts into presentations	2.58	4.11
Digital photos – use photo-editing software	3.07	4.12
Classroom Website – plan and develop	2.38	4.62

Classroom Website – upload Classroom Website	2.10	4.42
Classroom Website – publish and update regularly	2.09	4.53
Inspiration/Concept mapping tool – basic diagrams	2.38	4.23
Inspiration/Concept mapping tool – use and format symbol libraries	1.93	3.46
Inspiration/Concept mapping tool – publish diagrams, presentation software	1.74	3.44
Revise Existing WebQuest	1.57	4.19
Create an original WebQuest	1.57	4.34
Set up basic spreadsheet and graphing	2.96	4.08
Spreadsheet application requiring formulas	2.57	3.73
Put raw data into spreadsheet	2.62	3.78
Scanner – basic uses	3.16	4.32
Participate in an online project	2.58	4.04
Create and implement an online project	1.87	3.76
Average of 23 Items	2.44	4.15

eMINTS4All

Training and portfolio

One full day of in-service contact and 44 contact hours are completed in Year 1 and 40 hours in Year 2 of eMINTS4All. Nineteen modules are covered in with an additional three modules identified as optional. Portfolio components include writing and teaching a constructivist lesson plan. Student artifacts are submitted for the constructivist lesson.

The eMINTS4All classrooms are intended for schools with official eMINTS classrooms. In many cases eMINTS4All classrooms are in grades above or below eMINTS classrooms. eMINTS4All allows students to build, or continue to learn, the cognitive, social, and technology skills as teachers learn a subset of the Comprehensive eMINTS professional development skills.

Overall Results – eMINTS4All

The survey was completed by 42 teachers during both Year 1 and Year 2. Survey data was tracked by teacher to ensure the same population was compared with the pre and post surveys. An average score of 2.78 for all items was achieved on the pre-survey compared with an average score of 3.96 on the post-survey, an increase of 1.18.

Analysis of Topic Items Achieving Desired Average Mean Score on Pre-survey

The desired average end score for all teachers on each item was established at 3.0. Table C lists the items scoring above this level prior to teachers entering the eMINTS program. Teachers scored at or above this level on ten of the survey items prior to entering the program. The average score on these items from the pre-survey was 3.98 as compared to the post-survey at 4.54, an increase of 0.56. The eMINTS program provided improvement in self-reported skill level with skills teachers were familiar with when entering the program.

eMINTS Table C
eMINTS4All Pre-survey Topic Items Achieving Desired Average Mean Score

Topic	Fall 2008	Spring 2010
Email – Send email without attachments	4.67	4.88
Email – Send email with attachments	4.43	4.83
File management – move and delete files, set up folders	4.05	4.64
Create and save documents that include clip art	4.26	4.62
Format text including bullets, font, borders, cut, copy and paste	4.31	4.67
Create and use templates for documents	3.29	4.07
Create and publish a classroom newsletter (Microsoft Publisher or Word)	3.74	4.48
Create new presentations using my own or commercial templates (Microsoft PowerPoint)	3.69	4.40
Take photos with a digital came	4.21	4.55
Use scanner for basic applications	3.17	4.21
Average of Ten Items	3.98	4.54

Comparison of Topics Covered and Not Covered in eMINTS4All Professional Development
Eight topics listed in the Technology Literacy Survey are not addressed during eMINTS4All professional development. As expected, topics covered during eMINTS professional development showed a greater increase (1.33) when compared to those not covered (0.78). Improvement in areas not covered might be contributed to transfer of skills. Some of the skills not covered are very similar to others which are, possibly only the software varying. Another possible source for the improved scores is the learning community in eMINTS schools. Research has shown collegial networks develop as teachers share with one another the success of innovations when implementing technology. This sharing is encouraged in both Comprehensive eMINTS and eMINTS4All, especially in school-wide implementations.

eMINTS Table D
eMINTS4All Topics Covered in Professional Development

Topic	Fall 2008	Spring 2010
Email – Send email without attachments	4.67	4.88
Email – Send email with attachments	4.43	4.83
File management – move and delete files, set up folders	4.05	4.64
Use online tools to save sites	2.55	3.62
SMART Board/Interactive Whiteboard – presentation tool	2.81	4.62
SMART Board/Interactive Whiteboard – collaboration tool	2.40	4.38
SMART Board/Interactive Whiteboard – demonstration tool	2.52	4.40
SMART Board/Interactive Whiteboard – advanced features	2.02	3.74
Create and publish a classroom newsletter (Microsoft Publisher or Word)	3.74	4.48
Create new presentations using my own or commercial templates (Microsoft PowerPoint)	3.69	4.40
Publish presentations to the Web	1.98	3.48
Import videos/charts into presentations	2.38	3.62
Classroom Website – plan and develop	2.17	3.90
Classroom Website – upload Classroom Website	1.93	3.76
Classroom Website – publish and update regularly	2.00	3.67
Inspiration/Concept mapping tool – basic diagrams	2.10	4.00

Inspiration/Concept mapping tool – use and format symbol libraries	1.88	3.36
Inspiration/Concept mapping tool – publish diagrams, presentation software	1.60	3.17
Participate in an online project	2.31	3.52
Create and implement an online project	1.67	3.31
Average of 21 Items	2.67	4.00

eMINTS Table E
eMINTS4All Topics Not Covered

Topic	Fall 2008	Spring 2010
Microsoft Word/Word processing – create and save documents	4.26	4.62
Microsoft Word/Word processing – format text	4.31	4.67
Microsoft Word/Word processing – create and use templates	3.29	4.07
Digital photos – take photos with a digital camera*	4.21	4.55
Digital photos – use photo-editing software	2.67	3.76
Revise Existing WebQuest	1.71	3.07
WebQuest – write an original WebQuest	1.71	2.90
Average	3.17	3.95

Recommendations

1. Pre-survey data will be used to determine if changes might be made to the technology skills addressed during eMINTS training. Teachers are entering the training with some skills in place that might be removed from eMINTS PD content, leaving room for the introduction or reinforcement of other skills.
2. The survey results will be shared with eMINTS instructional staff so they can continue appropriate revisions to improve eMINTS-CPD materials and delivery techniques (including classroom visits) to insure important technology literacy skills in the eMINTS-CPD program are acquired by participating teachers. A comprehensive revision of modules is scheduled for the upcoming year bringing an opportunity to address low scoring areas. For example, the use of concept mapping software could be incorporated into additional modules to supplement learning in this area.
3. eMINTS staff will review the survey items with the intent of becoming more aligned with emerging technologies such as video production, podcasting, and web 2.0 tools that are currently part of the eMINTS professional development content.
4. eMINTS staff will consider the addition of information literacy skill items to the survey. This skill has become a critical one for teachers in the information age and data about how eMINTS is enhancing these skills would be useful for program evaluation and revision.

Teacher Portfolio Score Report (Fall 2010)

In addition to the Teacher Technology Literacy Skills Survey, a further assessment of teacher mastery of concepts taught in the eMINTS professional development programs was developed in collaboration with EDC/CCT with creation of the teacher portfolio submission process. The portfolio process requires eMINTS Comprehensive teachers to submit a lesson plan, a WebQuest, and a classroom website or portal at the end of their second year of professional development. Teachers in the eMINTS4All program submit only a lesson plan at the conclusion of their second year of professional development. Teachers in both programs are required to submit

student artifacts and a reflection along with their lesson plan and WebQuest. Because the portfolio artifacts are designed by teachers participating in eMINTS professional development programs as a way to guide their instruction and interactions with students, the portfolio elements can serve as “proxies” for teacher understanding of how to structure their instructional practice and use technology to support students.

Portfolio scorers are trained on the use of the rubrics to ensure inter-rated reliability. Student artifacts are not scored; rather, they serve as evidence that the teacher has actually taught the WebQuest or lesson plan in his/her classroom. Teacher reflections are not scored, but serve as additional evidence that the instruction actually was carried out in the classroom and often provide additional information about the instruction that is useful in informing the scoring process.

Following is a summary of the report for teachers who participated in Comprehensive MINTS and eMINTS4All professional development August 2008 through May 2010. The full report [provided in the appendix] includes copies of the Classroom website/portal, WebQuest, and Lesson Plan rubrics and the submission guidelines.

A total of 291 portfolios were submitted by Missouri teachers in during the 2010 submission window: by 171 teachers participating in the Comprehensive eMINTS and 120 teachers participating in the eMINTS4All professional development programs. Portfolios were submitted electronically using the eMINTS National Center Moodle installation, with the following due dates:

- February 13, 2010 for the classroom website/portal
- April 12, 2010 for the WebQuest, student artifacts and reflection
- May 17, 2010 for the lesson plan, student artifacts and reflection

Portfolio scorers computed scores for each element (classroom website/portal, WebQuest, and lesson plan) in each portfolio submitted by totaling the scores from each rubric for every teacher. The lesson plan rubric has a total of twenty-one (21) items, each with a low score of 1, a medium score of 2, and a high score of 3 for a range of 21-63 points. The Classroom Website/Portal rubric has a total of seventeen (17) items with the same 1-3 scoring system for a range of 17-51 for that element. The WebQuest rubric has a total of sixteen (16) items with the same 1-3 scoring system for a range of 16-48 for that element.

Each year a new overall portfolio cut-score is established based on the scores of all portfolios submitted for that year. All overall portfolio scores are ranked from highest to lowest with the cut-score established at the point where more than 90% of overall portfolio scores fall and that is within one-tenth (.1) point of the original study overall average.

The overall portfolio scores were subjected to the same cut-score as was applied to all portfolios submitted by teachers from Missouri and from other states implementing eMINTS. For portfolios received in spring 2010, the cut-score was established at 2.0.

Portfolios are determined to be “satisfactory” if they meet the following performance levels:

- All required elements have been submitted with the appropriate additional documentation (e.g., student artifacts and teacher reflection forms for the lesson plan and WebQuest)
- For eMINTS Comprehensive teachers, only one element may score below the 2.0 level. The remaining two elements must score at 2.0 or higher. This practice ensures that at least two of the elements meet the required average and one very high-scoring element is not “carrying” two weaker elements since allowing that to occur would not reflect teacher mastery.

The aggregate overall portfolio score for eMINTS Comprehensive teachers in Missouri in 2010 is shown in Table F. In the original fidelity study significant and positive correlations between portfolio elements and improved student achievement at various grade levels in mathematics and/or communication arts was found as shown in Table F.

eMINTS Table F
Missouri Portfolios Element Cut-Scores Related to Improved Student Achievement

Portfolio Element	Score Related to Improved Achievement (Martin et al.)	Overall eMINTS Cut-score
Lesson plan	1.97	2.0
WebQuest	2.39	2.0
Classroom website/portal	1.85	2.0
Average total or overall portfolio	2.07	2.0

The cut-score for the WebQuest portion of the portfolio did not reach the same level as the score found by Martin et al. (2008) to be related to improved student achievement. The explanation for this is that the eMINTS scorers have typically scored that element more strictly than the original study scorers.

Conclusions

District narratives submitted in January and June 2010 indicated that the projects are resulting in noticeable changes in teaching and learning. The anecdotal comments indicate that teachers are benefiting from the projects' extensive professional development and that students find the new instructional strategies and classroom technologies engaging.

The impact of the competitive grants is best recognized, however, by grant recipient's end-of-year program evaluation narratives. As outlined in Appendix E and in the table below, these districts made great strides in using technology to improve teaching and student academic achievement, including technology literacy skills. Table 23 summarizes the objectives districts established for grants funded during the 2009-2010 school year. Overall, the districts noted numerous gains – meeting 79 objectives in total, many of which were statistically significant.

Table 23
Missouri Title II.D Competitive Grant Programs – Teaching and Learning Outcomes

LEA	Student Learning Objectives									Teaching Objectives		
	CA	R	W	M	S	SS	SE	STL	Att	IBL	TI	TTL
Year 2 eMINTS Grants												
East Newton	M			M				M		M		M
Fulton		M						M		M	M	M
Hancock Place		M	M					M	M	M	M	M
Putnam Co.	M	P						M		M		M
Richmond								M	M	M	M	M
School of the Osage	M							P	M	M	P	M
Sullivan		M						M		M	M	M
Westran		P						M		M	M	M
Mets Sub-Total	3	3	1	1				2	8	1	7	6
												8

Missouri Title II.D Competitive Grant Programs – Teaching and Learning Outcomes
 (continued)

LEA	Student Learning Objectives										Teaching Objectives		
	CA	R	W	M	S	SS	SE	STL	Att	IBL	TI	TTL	
Year 1 eMINTS Grants													
Cameron	NM								P		P	M	M
Cassville				NM					M		M	P	P
Gasconade Co.	P								M		M	M	M
Jefferson City	M			M					M		M	M	M
Lebanon	NM			P	P				P		P	M	P
North Kansas City	P			P					P		P	NM	NM
Sedalia	P			P					P		P		P
Sikeston	NM			M					P		P	P	P
St. Louis City	P	M		P					M		M	M	M
Wellston*	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	1	1		2					4		4	5	4
Other Model Grants													
Arcadia Valley	M		M	M	M	M			P		P	M	
Blue Springs			P						M		M		M
Columbia	M								M				M
Eldon	M	M		M	M				NM				M
Nixa	P	NM		P					M		M		P
Ritenour/Ferguson		M				NM			M		M	P	P
Sub-Total	3	2		1	1	1			4		2	1	3
TOTAL = 79	7	6	1	4	1	1	2	16	1	13	12	15	

* Outcome objectives are not reported for this district because the district was closed in May and the project did not complete a full year of implementation.

The 79 competitive grant objectives include 20 related to student academic performance – primarily in communications arts, reading, and mathematics; 16 addressing student technology literacy; 13 related to teaching practices, and 27 addressing technology integration and teacher technology skills. Districts reported progress toward meeting another 35 objectives, evenly split between teaching and learning. .

Research and evaluation conducted for or by the eMINTS National Center indicate similar findings. For the first time, eMINTS certified over 500 Missouri teachers in one year. By the end of the 2009-2010 school year, 328 Comprehensive eMINTS and 244 eMINTS4All teachers had successfully completed their professional development and had passing portfolio scores. As the professional development scheduled provided in Appendix G and the portfolio requirements discussed in Appendix H, the two year-professional development commitment and the portfolio scoring are rigorous – with passing scores related to improved student academic achievement. In addition, 27 educators were certified as eMINTS instructional specialists after successfully completing all requirements of the PD4ETS program.

Recommendations and Lessons Learned

Overall the program ran very smoothly and projects resulted in numerous positive outcomes. However, some of the projects and district staff still struggle with formative and summative assessment and the use of data, in general. Recommendations include: providing more guidance to grant recipients on research and evaluation requirements; working with project staff and external evaluators to discuss distinctions between program and project evaluation and annual PEN and Final Evaluation reporting; and providing more guidance to district administrators on understanding, observing, and supporting expected changes in the classroom.

And all was not equal across the projects. Competitive grants are intended for high-need districts and schools – and grants were awarded to two such districts. Instructional Technology and eMINTS staffs understood the challenges and took extra steps in visiting the districts in September 2009, tracking professional development attendance, and making regular contact with the project director. So it was most disappointing to have one project end in its first year because the district was closed – because the teachers and students, while facing difficult challenges, were making some headway. The other project also faced challenges, capped by finding that the building principal and almost half of the teachers would not be involved during Year 2 because staffing issues (reduction-in-force) and school reform consequences. While it's difficult to anticipate such occurrences, there are conversations in the Department about how to marshal resources to ensure wise and prudent grant awards and project implementations.

ED-TECH PROGRAM EVALUATION OUTLINE

EETT Program Evaluation

- Budget analyses (current and future forecast)
 - Program components
 - Application submission process
 - Application review and approval process (Scoring, training, Inter-reader reliability)
 - Monitoring and evaluation (Processes and Tools)
- Formula Grant Program
 - Sub-Grant Information
 - Number eligible v. number applications
 - Use of grant funds – program purposes
 - Transfer of grant funds
 - Grant expenditures
 - Statewide Information
 - Census of Technology
- Competitive Grant Program
 - Sub-Grant Information
 - Number eligible v. number applications
 - Teacher technology survey data
 - Mid-year and end-of-year project reports
 - eMINTS program evaluation reports

Technology Network Program

- Memberships (number renewals v. number drops and new members)
- Bandwidth usage (Rate of upgrades, Resources available)
- Formative assessment
 - Budget analyses (current and future forecast)
 - Demand and use of services
- Monitoring and evaluation
 - Quarterly and End-of-Year reports
 - MOREnet Council meetings

ALL PROGRAMS

- Formative assessment
 - Internal review
 - Outside feedback (EdTech committee, federal Committee of Practitioners, MOREnet Council, etc.)
- Missouri current and trend data analyses
 - Annual Census of Technology, Tech plan submissions, MSIP reviews
 - Annual State Tech Plan summary table
 - eMINTS and TNP reports
 - Annual SETDA State Profile
- Comparative analyses
 - SETDA National Trends Report
 - Education Week's Technology Counts, National Educational Technology Trends Study, other reports

2007 MISSOURI EDUCATION TECHNOLOGY STRATEGIC PLAN – 2010 STATUS REPORT

The 2007-11 Missouri Education Technology Strategic Plan (METSP) details eight major implementation strategies for the Department to help districts meet objectives related to five education technology goals:

1. **Student learning:** student academic achievement and performance, including technology literacy, will be improved through the use of education technologies.
2. **Teacher preparation:** Teacher performance, including the delivery of instruction and technology literacy, will be improved through the use of education technologies.
3. **Administration:** The teaching and learning process will be enhanced through the use of technology for administration, data management, and communications.
4. **Resource distribution:** School administrators, teachers, staff, and students will have equitable access to education technologies that promote student performance and academic achievement.
5. **Technical support:** School administrators, teachers, staff, and students will have the technical support needed to use education technologies effectively and efficiently.

This METSP Status Report outlines specific objectives related to these goals, presents established baseline and expected levels to be reached by the end of the five-year plan (June 30, 2011), and charts annual progress toward meeting the objectives. The data used for this report are gathered via the annual Missouri Census of Technology (COT) and records from various state and federal ed-tech programs.

Notes: Definitions of key terms used in this report can be found in Core Data Manual instructions for completing the Census of Technology (Screens 30 and 31) and annual COT summary reports which are posted on the COT website at: <http://dese.mo.gov/divimprove/instrtech/statefunded/census/>. Numbers of districts and charter LEAs vary from year to year. COT data analyses exclude juvenile centers, special education cooperatives, and buildings where student attendance is reported elsewhere (e.g., “home school” versus “gifted center”), or other buildings with no student enrollment data to report.

Goals and Desired Outcomes	Baseline	Annual Status						Goal
		2006	2007	2008	2009	2010	2011	
Student learning								
DESE will establish/support virtual learning . The Missouri Virtual Instruction Program (MoVIP), annually, will:	NA	NA	K-5, 9-12 9 2,000 109 84% / 30%	K-12 23 of 246 2,867 101 89% / 57%	K-12 ¹			MoVIP in place K-12 15 5,000 115 Yes
Program records: number courses and enrollments								
Districts will establish/endorse student technology standards. <i>COT Screen 30 #2: number / percent districts</i>	484 / 93%	511 / 95%	524 / 95%	530 / 96%	536 / 97%			100%
Students will be technology literate by the end of grade 8. <i>COT 30 #8: median district percent</i>	90%	90%	92%	60% ²	77%			100%

¹ MoVIP funding was decreased mid-year, becoming a tuition-based program in January and state funding fully supporting medically fragile students only. ² Beginning in 2009, districts began reporting technology literacy via MOSIS, indicating the literacy status for each student competing eighth grade. The number reported represents the literacy percent for the typical/median district.

2007 Missouri Education Technology Strategic Plan – 2010 Status Report

	Baseline	Annual Status					Goal
	2006	2007	2008	2009	2010	2011	
Goals and Desired Outcomes							
Student learning (continued)							
Tech Use. Students will routinely use: • educational software <i>COT 31 Tech Usage #1: median building percent</i>	79%	80%	80%	80%	81%		100%
Tech Use. Students will routinely use technology to: • produce media products/presentations • produce written products • conduct online research • take online course(s) <i>COT 31 Tech Usage #2: building mean</i>	43% 60% 56% 2%	46% 61% 58% 4%	50% 63% 61% 4%	52% 64% 62% 5%	55% 68% 64% 5%		100% 100% 100% 25%
Teacher preparation							
DESE will help establish/support online programs/courses for teacher professional development . Annually, the e-Learning for Educators (EfE) program will: • train 10+ course facilitators • offer 20+ courses • serve 250+ teachers in courses • train 5+ course developers • produce 5+ Missouri-specific courses <i>Program records</i>	24 10 111 NA NA	+12=36 26 +229=340 24 5	+23 = 60 34 +466=706 +12=36 +8=13	+11 = 71 29 +2663=3369 +12=48 +8=21	NA = 71 34 +1676=5045 +17=65 +8 ² =29		80 20+ 1,500 40 25
Districts will integrate technology in core subjects : • communication arts • mathematics • science • social studies <i>COT 30 #6: number / percent districts</i>	512 / 98% 481 / 92% 494 / 94% 483 / 92%	531 / 98% 504 / 93% 512 / 95% 503 / 93%	538 / 98% 524 / 95% 531 / 96% 516 / 94%	540 / 98% 528 / 96% 535 / 97% 516 / 94%	550 / 99% 535 / 96% 544 / 98% 526 / 95%		100% 100% 100% 100%
Districts will establish/endorse technology standards for teachers . <i>COT 30 #2: number / percent districts</i>	434 / 83%	467 / 86%	473 / 86%	479 / 87%	490 / 88%		550 / 100%
Teachers will possess intermediate or advanced technology skills . <i>COT 31 Training #1: building mean</i>	82%	84%	86%	88%	88%		100%
Tech Use. Teachers will routinely use: • educational software <i>COT 31 Tech Usage #1: building mean</i>	76%	79%	80%	83%	84%		100%
Tech Use. Teachers will routinely use technology to: • produce media/multimedia presentations • produce written products • conduct online research • prepare lesson plans • manage student records • track student performance • assess student learning • deliver and present instruction • participate in online courses <i>COT 31 Tech Usage #2: building mean</i>	51% 80% 76% 68% 76% 77% 72% 67% 12%	59% 82% 77% 71% 81% 86% 78% 67% 14%	64% 84% 81% 77% 86% 89% 82% 73% 17%	69% 86% 83% 81% 89% 90% 85% 77% 19%	73% 88% 85% 83% 90% 91% 87% 81% 20%		100% 100% 100% 100% 100% 100% 100% 100% 25%
Teachers will be able to fully integrate technology in curriculum and instruction. <i>COT 31 Tech Usage #4: median building</i>	50%	60%	65%	70%	75%		90%

² Under a contract with DESE, e-Learning for Educators created a website and self-paced and facilitated online courses to assist Missouri educators in understanding and implementing the new Information and Communications Technology Literacy (ICTL) grade and course-level expectations.

2007 Missouri Education Technology Strategic Plan – 2010 Status Report

Goals and Desired Outcomes	Baseline	Annual Status					Goal
	2006	2007	2008	2009	2010	2011	
Teacher preparation (continued)							
DESE will help establish/support program(s) to prepare teachers to implement inquiry-based instruction powered by technology . The eMINTS program will train:							
• 100+ teachers (Comp PD or eMINTS4All) • 5+ ed-tech specialists (PD4ETS)	1,136 82	(+257) 1,393 (+22) 104	1,640 (+3) 107	2,016 (+17) 124	2,588 (+24) 166		2,500 150
Administration							
DESE will secure/sustain ed-tech funding/programs : MOREnet connectivity (TNP) and related E-rate, federal Title II.D (EETT) grants, state virtual school (MoVIP), state METS grants, eMINTS PD, and e-Learning for Educators (EfE) project	\$13.11 m. \$3.24 TNP \$2.89 E-rate \$6.25 EETT \$0.55 eMINTS \$0.18 EfE	\$10.69 m. \$3.85 TNP \$2.52 E-rate \$3.13 EETT \$0.97 eMINTS \$0.22 EfE	\$19.73 m. \$4.70 TNP \$3.04 E-rate \$3.10 EETT \$5.20 MoVIP \$2.90 METS \$0.55 eMINTS \$0.24 EfE	\$20.64 m. \$4.95 TNP \$4.31 E-rate \$3.67 EETT \$5.20 MoVIP \$0.97 METS \$1.26 eMINTS \$0.28 EfE	\$21.53 m. \$2.32 TNP \$5.07 E-rate \$11.56 EETT ³ \$2.40 MoVIP ¹ \$0.00 METS \$0.00 eMINTS \$0.18 EfE		\$20+ million annually
DESE will help establish/support an electronic planning tool (ePeGS) to help districts develop effective technology plans and DESE funding to goals and objectives.	NA	Tool under development	Planning tool in place June 08	Plan tool fully in use; Grant tool was by June 09	MET		ePeGS completed – and used by all districts
Districts will establish/endorse technology standards for administrators .	426 / 81%	456 / 82%	466 / 85%	468 / 85%	478 / 86%		100%
COT 30 #2: number / percent districts							
DESE will help continue cost-effective programs for Internet and online resources . Annually, MOREnet K-12 TNP and E-rate programs will serve 95% of districts, charter LEAs, and state schools.	513 / 95% (540 possible)	516 / 96% (540 possible)	518 / 94% (552 possible)	518 / 94% (551 possible)	519 ⁴ / 94% (551 possible)		95%
Building administrators will possess intermediate or advanced technology skills .	92%	93%	95%	96%	95%		100%
COT 31 Training #1: building mean							
Building administrators will use technology routinely to:							
• manage student records • track student performance • assess student learning • communicate with peers, parents, experts • participate in online courses/pd	85% 84% 74% 95% 11%	87% 85% 76% 95% 12%	89% 88% 78% 96% 17%	91% 90% 81% 96% 16%	91% 91% 82% 96% 18%		100% 100% 100% 100% 25%
COT 31 Tech Usage #2: building mean							
Districts will provide/support email for:							
• administrators • teachers • support services staff	508 / 97% 498 / 95% 482 / 92%	522 / 97% 518 / 96% 503 / 93%	534 / 97% 530 / 96% 509 / 94%	532 / 97% 529 / 96% 522 / 95%	578 / 86% 490 / 88% 441 / 79%		100% 100% 100%
COT 30 #7: number / percent districts							
Buildings will maintain tech-mediated system(s) for parent/patron feedback.	98%	97%	98%	99%	99%		100%
COT 31 Tech Usage #5: percent buildings							

¹ MoVIP funding was decreased mid-year, becoming a tuition-based program in January.

³ EETT funding includes one-time funding made available through the American Recovery and Reinvestment Act (ARRA).

⁴ Total includes one member connected to the TNP network but not having MOREnet-provided Internet connectivity.

2007 Missouri Education Technology Strategic Plan – 2010 Status Report

Goals and Desired Outcomes	Baseline	Annual Status					Goal
	2006	2007	2008	2009	2010	2011	
Resources							
MOREnet TNP will provide sufficient bandwidth to meet district member needs.							
• Increasingly more districts are connected at/above 1.6Mb	134 / 513 26%	227 / 516 44%	323 / 518 62%	400 / 517 77%	425 / 518 82%		90%
• Median access statewide is at/above 4Kb 8Kb per student (updated 2009)	NA	4.16	4.90	7.31	8.13		≥ 8.0Kb
• More districts with connections of 10Mb per 1,000 staff and students	NA	NA	83 / 16%	160/31%	178/34%		25%
<i>Program records</i>							
Districts will maintain local and/or wide area networks .							
• buildings connected to LAN or WAN	484 / 92% 99.7%	484 / 92% 99.7%	501 / 91% 99.9%	488 / 89% 99.8%	514 / 93% 99.9%		100%
• buildings are connected to Internet				2246 / 2250	2244 / 2246		100%
<i>COT 30 #5 and COT 31 Connectivity #1, Hardware #3</i>							
Buildings will have infrastructure/capacity to support synchronous and asynchronous distance learning delivery methods.							
<i>COT 31 Connectivity #3: percent buildings</i>	77%	78%	81%	81%	83%		100%
Buildings will equip instructional rooms with:							
• telephone access	60%	63%	65%	68%	75%		90%
• modern computer, Internet-connected	90%	93%	93%	94%	95%		100%
• ratio of 2 students per computer or better (instruction computer ratio)	2.94	2.81	2.65	2.55	2.29		2.00
• ratio of 2 students per Internet-connected computer (instructional rooms)	3.18	2.96	2.77	2.63	2.40		2.00
• Interactive whiteboard and access to printer	32%	39%	47%	57%	59%		50%
<i>COT 31 Hardware #4: percent classrooms</i>							
Technical support							
Districts will employ/contract adequate technical support .							
• districts have technology coordinators	94% / 1.0	93% / 1.0	94% / 1.0	93% / 1.0	93% / 1.5		100% / 1.0
<i>COT 30 #3: percent districts / median FTE</i>							
Buildings will employ/provide adequate technical and instructional support .							
• buildings have technical support staff	95% / 1.0 88%	94% / 1.0 88%	94% / 1.1 88%	93% / 1.1 88%	94% / 1.5 91%		100% / 1.1 100%
• technical problems/repairs are resolved in 3 working days							
• computers are in working order	98% 95% / 1.0	98% 91% / 1.0	98% 91% / 1.2	98% 96% / 1.4	98% 96% / 2.0		100% 100%/1.2
<i>COT 31 Support #1,5,6 and Technology Usage #3</i>							

CENSUS OF TECHNOLOGY 2010 FINDINGS

DISTRICT LEVEL CENSUS [N = 555 Districts/LEAs]

1) Year district technology plan was last approved by DESE 2008 = 63 2009 = 285 2010 = 207

2) Board-approved education technology standards and population(s) that must meet the standards.

TYPE OF STANDARD	# LEAs	% LEAs
Locally-developed	469	85%
Adopted National Educational Technology Standards (ISTE NETS)	245	44%
Adopted Standards for Technological Literacy: Content for the Study of Technology (ITEA)	59	11%
Other (specify) <u>Show-Me Standards</u>	9	2%
None	19	3%

STUDENT POPULATION	# LEAs	% LEAs
Pre-K-2	490	86%
3-5	508	92%
6-8	519	94%
9-12	430	77%
Area Career Center (ACC)	50	9%
None	19	3%

STAFF POPULATION	# LEAs	% LEAs
Administrators	478	86%
Teachers	490	88%
Support services staff	441	79%
None	65	12%

3) Estimated total FTE of district-level staff or total hours of those directly responsible for technical maintenance and support of hardware.

EMPLOYEES	# LEAs	% LEAS	MEDIAN FTE
Yes - District staff	515	93%	1.5
None	40	7%	

NON-EMPLOYEES	# LEAs	% LEAS	MEDIAN # HRS
Yes – Contract hours	217	39%	100
None	338	61%	

4) District-supported administrative systems. (Check ALL that apply)

SYSTEM	# LEAs	% LEAS
Accounting/budgeting/ payroll	543	98%
Classroom website hosting	392	71%
Communication/email	526	95%
Course scheduling	476	86%
Discipline	502	90%
Distance education	262	47%
Extra-curricular scheduling	260	47%
Food Service	486	88%
Grade book	524	94%
Health Service	464	84%
Human resources	298	54%

SYSTEM	# LEAs	% LEAS
Instructional management system	258	46%
IEP management	472	85%
Inventory	343	62%
Library catalog	516	93%
School safety	222	40%
Student attendance	540	97%
Student fees	352	63%
Student performance	441	79%
Teacher evaluations	211	38%
Technical support	359	65%
Transportation	301	54%

5) All buildings in district are connected through a wide or local area network. Yes = 514 / 93% No= 41 / 7%

6) Core content area(s) in which technology is integrated. (Check ALL that apply)

550 / 99% Communication Arts 535 / 96% Mathematics 544 / 98% Science 526 / 95% Social Studies

7) Estimated percentage of following populations with district-provided email accounts.

STUDENT POPULATION	# LEAs	% LEAs
Pre-K-2	17	3%
3-5	47	8%
6-8	81	15%
9-12	139	25%
None	398	18%

STAFF POPULATION	# LEAs	% LEAs
Administrators	437	79%
Teachers	532	96%
Support services staff	525	95%
None	17	3%

8) Estimated percentage of district 8th graders who are technologically literate. 56% (42,149) Students 77% Median

9) Amount budgeted for technology for current year. \$160,346, 301 Total \$288,912 Average \$55,000 Median

10) Dollar value of district E-rate discount for current year (per funding commitment decision letters). [N = 409 / 74%] \$26,521,117 Total \$64,844 Average \$13,642 Median

11) Estimated percentage of E-rate discount used to support education technology. [N = 409 / 74%] 67% Average 80% Median

SCHOOL BUILDING LEVEL CENSUS [N = 2246 Attendance Centers]

PLANNING

- 1) Type of school technology plan: 144 / 6% Stand-alone 2100 / 94% Integrated in district plan 1 / <1% No building plan

TRAINING

- 1) Estimated percentage of faculty/staff in the school building at each skill level of education technology use.

FACULTY/STAFF	BEGINNER	INTERMEDIATE	ADVANCED	TOTAL
Administrator(s)	5%	62%	33%	100%
Teachers	12%	60%	28%	100%
Support services staff	25%	54%	21%	100%

- 2) Number of teachers in the school participating in education technology-related professional development.

HOURS COMPLETED	# BUILDINGS	% BUILDINGS	# TEACHERS
0 hours	564	25%	8,096
1 to 15 hours	2,062	92%	46,149
16 to 30 hours	999	44%	8,172
More than 30 hours	782	35%	4,906
Total			67,323

- 3) Number of eMINTS-trained teachers in school building.

eMINTS PROGRAMS	NONE (Buildings)	COMPLETED YEAR 1	COMPLETED YEARS 1 AND 2	TOTAL
Comprehensive eMINTS for Teachers	1,730	492 in 171 Bldgs	1,308 in 463 Bldgs	1,800
eMINTS for Education Technology Specialists	2,159	33 in 21 Bldgs	110 in 72 Bldgs	143
Other two-year eMINTS staff development programs	2,083	299 in 75 Bldgs	484 in 120 Bldgs	783

HARDWARE AND SUPPORT

- 1) Estimated total FTE of school building staff or total hours of others directly responsible for technical maintenance and/or support of hardware.

EMPLOYEES	# BLDGs	% BLDGs	MEDIAN FTE
District staff	1,846	82%	0.5
School certificated staff	431	19%	0.5
School non-certificated staff	428	19%	0.5
None	145	6%	

NON-EMPLOYEES	# BLDGs	% BLDGs	MEDIAN # HRS
Students	115	5%	40
Parents/community members	11	<1%	20
Vendors/contractors	579	26%	60
None	1,575	70%	

- 2) Age of computer and location within school building.

TYPE AND AGE OF COMPUTING DEVICE	INSTRUCTIONAL ROOMS							LIBRARY/ MEDIA CENTERS	STUDENT ROOMS TOTAL	ADMIN. OFFICES	TOTAL				
	LABS	CLASSROOMS													
		PREK-2	3-5	6-8	9-12	ACC	All ROOMS								
APPLE/MAC															
Less than 1 year old	2,260	451	941	493	232	120	2,237	923	5,420	176	5,596				
1 – 3 years old	7,335	2,259	3,405	3,669	3,598	401	13,332	2,003	22,670	742	23,412				
4 – 5 years old	3,374	1,547	1,677	1,467	910	227	5,828	1,139	10,341	333	10,674				
6 years or older	1,534	1,352	1,400	1,168	1,000	50	4,970	426	6,930	146	7,076				
MAC Sub-total	14,503	5,609	7,423	6,797	5,740	798	26,367	4,491	45,361	1,397	46,758				
PC/PC COMPATIBLE															
Less than 1 year old	18,663	5,014	9,262	7,247	14,903	1,019	37,445	3,841	59,949	3,350	63,299				
1 – 3 years old	49,583	12,271	17,394	17,887	26,949	4,418	78,919	11,744	140,246	12,003	152,249				
4 – 5 years old	25,455	8,523	12,532	10,514	16,675	2,837	51,081	7,395	83,931	6,324	90,255				
6 years or older	11,566	6,877	8,230	6,574	8,288	1,879	31,848	3,404	46,818	3,228	50,046				
PC Sub-total	105,267	32,685	47,418	42,222	66,815	10,153	199,293	26,384	330,944	24,905	355,848				
MAC/PC Total	119,770	38,294	54,841	49,019	72,555	10,951	225,660	30,875	376,305	26,302	402,606				
Students per computer	7.4						3.93		2.36		2.20				
HANDHELDs	1,647	1,318	3,917	1,969	2,185	105	9,494	800	11,941	1,127	13,068				
TOTAL	121,417	39,612	58,758	50,988	74,740	11,056	235,154	31,675	388,246	27,429	415,675				
Students per computer	7.31						3.77		2.29		2.14				

3) Internet-connected and multimedia-equipped computers by location within school building.

TYPE OF COMPUTING DEVICE AND TYPE OF CONNECTION	INSTRUCTIONAL ROOMS							STUDENT ROOMS TOTAL	ADMIN. OFFICES	TOTAL			
	Labs	CLASSROOMS											
		PreK-2	3-5	6-8	9-12	ACC	All Rooms						
Wire Connection													
Desktop	86,834	30,599	41,191	34,159	49,948	8,660	164,557	22,943	274,334	20,430			
Laptop	1,378	1,144	1,825	1,484	1,687	660	6,800	839	9,017	1,623			
Handheld	13	181	743	81	149	0	1,154	46	1,213	121			
Sub-total	88,225	31,924	43,759	35,724	51,784	9,320	172,511	23,828	284,564	22,174			
Wireless Connection													
Desktop	1,626	814	2,053	900	1,247	279	5,293	541	7,460	170			
Laptop	26,937	3,796	8,240	11,186	18,718	909	42,849	5,580	75,366	2,732			
Handheld	186	82	302	751	467	2	1,604	31	1,821	614			
Sub-Total	28,749	4,692	10,595	12,837	20,432	1,190	49,746	6,152	84,647	3,516			
TOTAL CONNECTED	116,974	36,616	54,354	48,561	72,216	10,510	222,257	29,980	369,211	25,690			
Students per computer	7.59						3.99		2.40				
MULTIMEDIA-EQUIPPED	111,993	35,889	52,201	45,825	68,084	10,260	212,259	28,415	352,667	24,302			
Students per computer	7.93						4.18		2.52				
										2.57			

4) Technology by type and location within school building.

TYPE OF TECHNOLOGY	INSTRUCTIONAL ROOMS							STUDENT ROOMS TOTAL	ADMIN. OFFICES	TOTAL			
	Labs	CLASSROOMS											
		PreK-2	3-5	6-8	9-12	ACC	All Rooms						
TOTAL NUMBER ROOMS	4,153	14,431	13,530	14,442	19,571	2,087	64,061	2,251	70,465	14,140			
# and % Rooms with:													
Telephone access	2,976	9,881	9,339	9,929	13,835	1,705	44,689	2,035	49,700	13,669			
	72%	68%	69%	69%	71%	82%	70%	90%	71%	97%			
Plus Internet access (wired or wireless)	4,081	14,358	13,396	14,372	19,405	2,005	63,536	2,184	69,801	13,845			
	98%	99.5%	99%	99.5%	99.2%	96%	99.2%	97%	99.1%	98%			
Plus one or more multimedia-equipped computers	4,046	14,054	13,213	14,032	18,758	1,958	62,015	2,123	68,184	13,046			
	97%	97%	98%	97%	95%	94%	97%	94%	97%	92%			
Plus multimedia computers connected to Internet	4,005	13,929	13,093	13,973	18,232	1,933	61,160	2,045	67,210	12,963			
	96%	97%	97%	97%	93%	93%	95%	91%	95%	95%			
Plus a dedicated projection device and access to a printer	3,312	9,299	10,156	9,907	12,658	783	42,803	1,474	47,589	2,656			
	80%	64%	75%	69%	65%	38%	67%	65%	68%	19%			
										59%			

5) Estimated typical (average) timeframe for resolving minor or routine technical problems/repairs.

WORKING DAYS	# BLDGS	% BLDGS
1 day	1,114	50%
2-3 days	911	41%
4-6 days	155	7%
7-10 days	40	2%
11 days or more	26	<1%

6) Estimated percentage of computers in working order on a typical (average) day. [98% Median](#)

INTERNET CONNECTIVITY – DISTANCE LEARNING

1) School building Internet connection by bandwidth and delivery mode.

BANDWIDTH	# BLDGS	% BLDGS	DELIVERY MODE	# BLDGS	% BLDGS
56kb – 384 kb	12	<1%	Copper line	479	21%
385kb – 1.4mb	66	3%	Fiber	1,600	71%
1.5mb (T1) – 9.9mb	895	40%	DSL	87	4%
10mb – 45mb	578	26%	Satellite	6	<1%
45mb – 100mb	345	15%	Other: Wireless = 26	52	2%
>100mb	345	15%	Combination = 9		
None	4	<1%	None/Unknown	21	<1%

- 2) Estimated percentage of computers connected to school building LAN (or district WAN). 100% Median
- 3) Distance learning system(s) available to students in school building. (Check ALL that apply)

TYPE OF DISTANCE LEARNING SYSTEM	# BUILDINGS	% BUILDINGS
I-TV: two-way interactive (audio and video) television	442	20%
Desktop video conferencing: two-way interactive instruction	386	17%
Web-based online instruction via Internet: non-interactive	1,322	59%
Satellite: one-way instructional video	212	9%
Cable TV: one-way instructional video	1,052	4%
Other: <u>United Streaming = 65</u> , <u>Web-based instruction/testing = 12</u> , <u>Moodle = 11</u>	123	5%
None	390	17%

TECHNOLOGY USAGE

- 1) Estimated percentage of administrators, teachers, and students routinely using following applications.
(Average % / Median %)

APPLICATION	ADMINISTRATORS	TEACHERS	STUDENTS
Educational software	56% / 80%	84% / 100%	81% / 100%
Electronic Resources:			
Electronic encyclopedia	20% / 0%	34% / 25%	37% / 35%
Gale	8% / 0%	13% / 0%	14% / 0%
Learning Express Library	5% / 0%	8% / 0%	8% / 0%
Newsbank	10% / 0%	15% / 0%	14% / 0%

- 2) Estimated percentage of administrators, teachers, and students routinely using computers for following functions.
(Average % / Median %)

FUNCTION	ADMINISTRATORS	TEACHERS	STUDENTS
Produce media/multimedia/web products to demonstrate learning, make presentations	71% / 100%	73% / 80%	55% / 55%
Produce written/print products to demonstrate learning, make presentations	85% / 100%	88% / 100%	66% / 75%
Communicate (email) with peers, experts, others	96% / 100%	95% / 100%	28% / 5%
Communicate (email) with parents and students	92% / 100%	88% / 100%	20% / 0%
Conduct online research	86% / 100%	85% / 100%	64% / 75%
Participate in online courses (this year)	18% / 0%	20% / 10%	5% / 0%
Manage student records (spreadsheet/database)	91% / 100%	90% / 100%	
Track student performance	91% / 100%	91% / 100%	
Assess student performance	82% / 100%	87% / 100%	
Deliver and present instruction	50% / 50%	81% / 93%	
Prepare lesson plan(s)		83% / 100%	

- 3) Estimated total FTE of staff or others directly responsible for integration of technology into curriculum and instruction.

EMPLOYEES	# BLDGS	% BLDGS	MEDIAN FTE	NON-EMPLOYEES	# BLDGS	% BLDGS	MEDIAN # HRS
Instructional tech specialist	996	44%	0.50	Students	40	2%	15
Library/media specialist	1,405	63%	1.00	Regional center/RPDC	92	4%	15
School administrator	1,154	51%	1.00	Other: <u>Business/Individuals</u>	67	3%	25
Teacher	1,246	56%	0.50	None	2,056	92%	
School technical staff	305	14%	0.75				
District technical staff	981	44%	0.50				
Other: <u>Curriculum = 84</u>	161	7%	0.25				
None	95	4%					

- 4) Estimated percentage of teaching staff fully integrating technology into curriculum and instruction.
68% Average 75% Median

- 5) School (or district) supported technology-mediated feedback. (Check ALL that apply)

ADMINISTRATIVE SYSTEM	# BLDGS	% BLDGS	ADMINISTRATIVE SYSTEM	# BLDGS	% BLDGS
Automated absentee system	882	39%	Listservs	375	17%
Electronic bulletin board	704	31%	Voice Mail	1,485	66%
Email	2,165	96%	Other: <u>Parent Portal = 287</u> , <u>Auto call/text = 201</u> , <u>Moodle/Bb = 96</u>	723	32%
Homework hotline via web	522	23%	None	24	<1%
Homework hotline via telephone	257	11%			

ED-TECH PROGRAM GOALS PROGRESS REPORT

This report describes the State's progress in meeting its EETT performance indicators based on data sources that the State established for PART Review of the Enhancing Education through Technology (Title II, Part D). The following information and tables detail how the State is assessing the effectiveness of the program in improving access to and use of educational technology by students and teachers in support of academic achievement, as submitted in the Consolidated State Application.

Program Goals:

The goals of the Title II.D Program are to:

1. improve student academic achievement through the use of technology in elementary schools and secondary schools.
2. assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
3. encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.

State Definitions

To review progress toward meeting program goals, Missouri had to define the key terms and update the core data collection (i.e., the Census of Technology) accordingly.

Curriculum Integration – Written curriculum incorporates content and processes (teaching, professional development, and assessment) related to technology resources, equity of resources, research and workplace readiness skills. Technology supports overall goals and objectives and makes possible and enhances the use of multiple instructional resources and teaching strategies (e.g., use of project-based learning, collaborative and cooperative learning, ongoing questioning, expert assistance, and critical analysis). Technology integration should be evident throughout the curriculum; however, it does not have to be addressed in each unit or lesson.

Student and Teacher Technology Literacy – Technology literate students are able to appropriate technologies to communicate, solve problems, and access, manage, integrate, evaluate and create information to improve learning, and acquire lifelong knowledge and skills. Students able to do the following (adapted from the 2007 National Educational Technology Standards – Students, NETS-S):

- demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology,
- use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others,
- apply digital tools to gather, evaluate, and use information,
- use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources,
- understand human, cultural, and societal issues related to technology and practice legal and ethical behavior and
- demonstrate a sound understanding of technology concepts, systems, and operations.

Technology literate teachers are able to: Use multiple and varied strategies that promote authentic project-based learning opportunities, student teamwork, collaboration, and communication using technology in the classroom curriculum.

Progress Report Tables

The following tables detail Missouri's goals for 8th-grade student technology literacy and educator technology proficiency. The tables define the goals (end targets), indicate baseline data, establish annual benchmarks for meeting the goals, and provide progress assessments. For the most part, the data being reported are gleaned from the Census of Technology and program participation records.

8TH-GRADE STUDENT TECHNOLOGY LITERACY

Indicator	Percentage of students in the eighth grade who meet state's definition/standard for technology literacy
Measurement tool(s)	Technology literacy determinations are made at the local level and reported to the Department via the annual technology survey. Districts are provided guidance for interpreting and meeting the Show-Me curriculum standard and Missouri state technology plan standard. The Department examines district application of these standards via the Missouri School Improvement Program (conducted every five years) and the technology plan approval process (completed every two to three years). Thus, while one measure is reported, districts and the Department use multiple tools in determining annual progress.
<i>BASELINE DATA</i> Target	2002 Baseline: The MEDIAN district reported 86% of eighth-grade students as technology literate on the Missouri Census of Technology (COT) Target: 99% of eighth-grade students will be rated as technology literate as reported on the 2008 COT
2003-04 Target Progress	89% of eighth-grade students rated as technology literate as reported on the 2004 COT 2004 COT= 86% (2) target not met – Literacy standard was upgraded in 2004 to better align with NETS*S, explaining the drop in the 2004 COT findings.
2004-05 Target Progress	91% of eighth-grade students rated as technology literate as reported on the 2005 COT 2005 COT= 90% (2) target not met – The 2005 rate nearly meets the target.
2005-06 Target Progress	93% of eighth-grade students rated as technology literate as reported on 2006 COT 2006 COT= 90% (2) target not met – The 2006 rate nearly meets the target.
2006-07 Target Progress	95% of eighth-grade students rated as technology literate as reported on the 2007 COT 2007 COT= 90% (2) target not met – the median percentage rate has remained steady the last three years.
2007-08 Target Progress	99% of eighth-grade students rated as technology literate as reported on the 2008 COT 2008 COT=92% (2) target not met – while the median percentage rate increased for the first time since 2004, the target has not been met.
2008-09 Target (Revised) Progress	75% of eighth-grade students will be rated as technology literate as reported on the 2009 MOSIS (Missouri Student Information System) 2009 MOSIS= 60% (2) target not met – the median percentage rate did not meet target
2009-10 Target Progress	75% of eighth-grade students rated as technology literate as reported on the 2010 MOSIS (Missouri Student Information System) 2010 MOSIS= 77% (1) target met – the median percentage rate met target

EDUCATOR TECHNOLOGY PROFICIENCY

Indicator	Percentage of teachers meeting technology literacy standard (with ratings of intermediate or advanced skills). AND Number of teachers successfully completing comprehensive eMINTS professional development.
Measurement tool(s)	Teacher tech literacy determinations are made at the local level and reported to DESE via the annual technology survey. DESE provides guidance for interpreting EETT and state ed-tech plan standards, examines district application of the standards via the Missouri School Improvement Program and the tech plan approval process. The eMINTS professional development program is fully aligned with the National Educational Technology Standards for Teachers (NETS*T), with program certification based on specific skill development and competencies. Thus, districts and DESE use multiple tools in determining annual progress.
BASELINE DATA <i>Targets</i>	2002 Baseline: Districts reported 76% of teachers having intermediate or advanced tech literacy skills on the Missouri Census of Technology (COT). Target: 78% of teachers rated having intermediate or advanced tech skills AND 2002 Baseline: Program records indicated 164 teachers had been certified as successfully completing 2-year eMINTS professional development programs. Target: Program records indicate 225 teachers eMINTS certified (60 additional teachers).
2003-04 Target Progress	79% of teachers will be rated having intermediate or advanced tech skills on the 2004 COT. Program records will indicate 295 teachers eMINTS certified (70 additional teachers). 2004 COT= 81% (1) target met. eMINTS records=326 (1) target met.
2004-05 Target Progress	80% of teachers will be rated having intermediate or advanced tech skills on the 2005 COT. Program records will indicate at least 375 teachers eMINTS certified (80 additional teachers). 2005 COT= 81% (2) target not met. eMINTS records=420 (1) target met.
2005-06 Target Progress	85% of teachers will have intermediate/advanced tech skills on the 2006 COT. Program records will indicate 455 teachers eMINTS certified (90 additional). 2006 COT= 82% (2) target not met. New eMINTS-trained educators target met at 260: 99 Comprehensive and 152 eMINTS4All teachers, 9 ed tech specialists.
2006-07 Target Progress	95% of teachers will have intermediate/advanced tech skills on the 2007 COT. Program records will indicate 555 teachers eMINTS certified (100 additional). 2007 COT= 84% (2) target not met. However, percentage rate continues to climb. New eMINTS-trained educators target met at 109: 41 Comprehensive, 66 eMINTS 4All teachers, and 2 Ed tech specialists (train-the-trainer program).
2007-08 Target Progress	99% of teachers will have intermediate/advanced tech skills on the 2008 COT. Program records will indicate 665 teachers eMINTS certified (110 additional). 2008 COT= 86% (2) target not met- percentage increased but not at target, New eMINTS-trained educators target met at 281 new certified eMINTS teachers: 167 Comp, 98 4All teachers, and 16 Ed tech specialists.
2008-09 Target Progress	99% of teachers will have intermediate/advanced tech skills on the 2009 COT. Program records will indicate 775 teachers eMINTS certified (110 additional). 2009 COT= 88% (2) target not met- percentage increased but not at target, New eMINTS-trained educators target met at 393 new certified eMINTS teachers: 194 Comp, 182 4All teachers, and 17 Ed tech specialists.
2009-10 Target Progress	99% of teachers will have intermediate/advanced tech skills on the 2010 COT. Program records will indicate 875 teachers eMINTS certified (110 additional). 2010 COT= 88% (2) target not met- percentage increased but not at target, New eMINTS-trained educators target met at 596 new certified eMINTS teachers: 328 Comp, 244 4All teachers, and 24 Ed tech specialists.

COMPETITIVE PROGRAM EVALUATION NARRATIVE SUMMARY REPORT

Missouri Department of Elementary and Secondary Education
FY 10 Title II.D Competitive Grant Programs

PROGRAM EVALUATION NARRATIVE SUMMARY REPORT FOR 2009-2010

The federal Title II, Part D “Enhancing Education through Technology” (Ed-Tech or EETT) Program provides grants to states and schools with the primary goal of improving student achievement through the use of teaching and learning technologies. Districts use the funding to secure classroom technologies and implement professional development and projects that promote effective integration of technology with teacher training and curriculum development, establishing successful research-based instructional methods and ensuring every student is technology literate by the end of the 8th grade. States distribute program funds to districts via formula and competitive sub-grant programs. This report summarizes the end-of-year Program Evaluation Narratives for the 24 competitive grants awarded in 2009-10.

Since the beginning, the Missouri Title II.D Competitive Grant Program has awarded two-year grants to support implementation of the eMINTS instructional model. Grant funds are used to establish technology-rich classrooms and provide eMINTS professional development that helps educators integrate technology in proven, research-based instructional strategies, resulting in improved student academic achievement, including technology literacy. eMINTS began as a demonstration project in 1997 and is now a large scale program involving thousands of teachers in classrooms across Missouri, the United States, and New South Wales, Australia. Extensive research has been conducted throughout the life of the program, available on the eMINTS website at <http://www.emints.org>.

In 2009-10, the Title II.D Program also received funding through the American Recovery and Reinvestment Act (ARRA). Missouri directed 75 percent of the ARRA-funded Title II.D competitive funds to support two-year eMINTS implementation projects, with the remainder available for one-year grants that integrate other research-based instructional technology programs designed to integrate technology into effective teaching practices, resulting in improved student academic achievement.

As indicated below in Table 1, a total of 24 competitive Title II.D grants were funded for FY10. Regular Title II.D funds supported ten (10) eMINTS grants and ARRA Title II.D funds supported eight (8) eMINTS and six (6) Other Model grants.

Table 1
Title II.D and ARRA Competitive Grant Awards for 2009-2010

Grant Type(s)	Title II.D	ARRA Title II.D	
	eMINTS Model	eMINTS Model	Other Models
Year 1 Grants Awarded	2	8	6
Average Award	\$346,700	\$380,000	\$196,750
Year 2 Grants Awarded	8	(Next year)	NA
Average Award	\$121,625		

Following is a summary of the projects' end-of-year project evaluation narratives (PENs) that are completed and submitted by grant-recipient districts with assistance from their external evaluators

(paid for with grant funds). The PEN forms includes data tables and narrative directions detailing the grant project's participants, professional development focus areas, project benefits and learner outcomes, and plans for the future. This summary report will first address the eMINTS Instructional Model grants, followed by the Other Instructional Model grants. Copies of the PEN forms are provided as attachments.

eMINTS INSTRUCTIONAL MODEL GRANTS

Schoolwide eMINTS projects typically involve cadres of teachers completing the extensive two-year Comprehensive eMINTS professional development program. Projects also involve numerous other educators who participate in other role-specific eMINTS professional development programs, based on the school's specific educational needs and the project's focus and design. Following is a brief overview of the 18 eMINTS grants funded in FY10: eight continuation and two new grants with Title II.D funds and eight new grants with ARRA funds.

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton (Granby and Stella) – Two elementary schools involving 11 teachers (6 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 260 students, grades 4-5, focusing on all core content (communication arts, mathematics, science, and social studies)

Fulton – Three elementary schools involving 26 teachers (9 Comprehensive eMINTS and 17 eMINTS4All classrooms) and 463 students, grades K-5, with a focus on communication arts and mathematics

Hancock Place – Middle school project involving 15 teachers (10 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 410 students, grades 6-8, focusing on communication arts, mathematics, and science

Putnam County (Unionville) – District implementation involving 15 teachers (12 Comprehensive eMINTS and 3 eMINTS4All classrooms) and 521 students, grades 4-12, with a focus on communication arts and science teachers

Richmond – Elementary school involving 13 teachers (7 Comprehensive eMINTS and 6 eMINTS4All classrooms) and 274 students, grades 4-5, focusing on all content areas

School of The Osage – Elementary school project involving 22 teachers (6 Comprehensive eMINTS and 16 eMINTS4All classrooms) and 413 students, grades 3-5, with a focus on communication arts and mathematics

Sullivan – Upper elementary project involving 10 teachers (5 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 432 students, grades 4-6, focusing on all content areas

Westran – Middle school implementation involving 5 teachers (2 Comprehensive eMINTS and 3 eMINTS4All classrooms) and 145 students, grades 6-8, with a focus on communication arts and mathematics

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – High school project involving 12 teachers (7 Comprehensive eMINTS and 5 eMINTS4All classrooms) and 417 students, grades 9-12, focusing on all content areas

Jefferson City – Elementary school involving 25 teachers (7 Comprehensive eMINTS, 9 eMINTS4All, 1 special education, and 7 other classrooms) and 307 students, grades K-5, focusing on all content areas

ARRA YEAR 1 eMINTS GRANTS

Cameron – Elementary and middle school implementation involving 18 teachers (9 Comprehensive eMINTS and 9 eMINTS4All classrooms) and 625 students, grades 4-8, focusing on all content areas [Note: numbers include grant- and district-supported eMINTS teachers]

Cassville – Intermediate elementary and middle schools involving 22 teachers (12 Comprehensive eMINTS and 10 eMINTS4All classrooms) and 528 students, Grades 3-6, focusing on all content areas

Lebanon – Two elementary schools involving 16 teachers (4 Comprehensive eMINTS and 12 eMINTS4All classrooms) and 774 students, grades 4-6, focusing on communication arts, mathematics, science, and technology

North Kansas City – Four elementary schools involving 30 teachers (26 Comprehensive eMINTS and 4 eMINTS4All classrooms) and 960 students, grades 3-5, focusing on all content areas

Sedalia – Elementary school project involving 17 teachers (7 Comprehensive eMINTS and 10 eMINTS4All classrooms) and 350 students, grades 2-4, focusing on all content areas

Sikeston – Middle school involving 11 teachers (11 Comprehensive eMINTS classrooms) and 520 students, grades 5-6, focusing on all content areas

St. Louis City – High school implementation involving 9 teachers (9 Comprehensive eMINTS) and 260 students, grades 9-12, focusing on all content areas

Wellston – Elementary school project involving 6 teachers (6 Comprehensive eMINTS classrooms) and 140 students, grades 3-5, with a focus on communication arts and mathematics

Project Information – Building Information

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level.

Table 2
eMINTS Buildings – Total Number of Teachers and Students by Grade Levels

Program	Grant Year	Group / Grades	K-2	3-5	6-8	9-12	Totals	
Title II.D	Year 1 [N=2]	Teachers	9	7		12	28	
		Students	177	153		385	715	
	Year 2 [N=8]	Teachers	33	78	74	4	189	
		Students	800	1,270	1,249	220	3,539	
	Sub-total [N=10]	Teachers	42	85	74	16	217	
		Students	977	1,423	1,249	605	4,254	
ARRA	Year 1 [N=8]	Teachers	8	87	4	10	109	
		Students	300	2,940	315	405	3,960	
TOTAL [N=18]		Teachers	50	172	78	26	326	
		Students	1,277	4,363	1,564	1,010	8,214	

Project Design – Professional Development Information for Classroom Teachers

eMINTS TEACHERS AND STUDENTS: Enter numbers of teachers and students in project, by grade level and professional development program type. [Note: *duplicate reporting of students is likely in some instances.*]

NOTE: Following is a brief description of the eMINTS professional development program offerings for teachers. Again, note that all projects must include a significant number of core content teachers completing the flagship Comprehensive eMINTS program.

- Comprehensive eMINTS (grades 3-12) professional development prepares teachers in classrooms equipped with the full suite of eMINTS-required hardware and software with the knowledge and skills needed to fully implement the eMINTS instructional model in their classrooms. This two-year program involves 9-10 classroom visits each year and a total of more than 250 contact hours (delivered face-to-face and online) following a clearly defined set of experiences with a specific scope and sequence using set material maintained in a web-access controlled environment.
- eMINTS4All (grades K-12) is designed to supplement official classrooms in schoolwide implementations, where classrooms have a smaller suite of hardware, helping teachers in the grades prior to eMINTS to understand the cognitive, social and technological skills their students will need to be successful in eMINTS, and helps teachers in other subject areas or in following grades to understand skills of their eMINTS-experienced students. This two-year program provides a subset of the comprehensive professional development, involving 90 contact hours, with 8-9 classroom visits per year.

Table 3
eMINTS Buildings – Participating Teachers (T) and Students (S) by Grant Type, Grant Year, Professional Development Program, and Grade Levels

Program	Grant Year	eMINTS PD	K-2		3-5		6-8		9-12		Totals		
			T	S	T	S	T	S	T	S	T	S	
Title II.D	Year 1 [N=2]	Comprehensive			7	153			7	385	14	538	
		Comprehensive Replacement											
		for All	9	177					5	385	14	562	
	Year 2 [N=8]	Comprehensive			33	713	20	896	3	209	56	1,818	
		Comprehensive Replacement			2	40					2	40	
		for All	6	121	31	600	24	738			61	1,459	
	Sub-total [N=10]	Comprehensive			40	866	20	896	10	594	70	2,356	
		Comprehensive Replacement			2	40					2	40	
		for All	15	298	31	600	24	738	5	385	75	2,021	
ARRA	Year 1 [N=8]	Comprehensive			69	1,637	4	315	9	330	82	2,282	
		Comprehensive Replacement											
		for All	9	300	25	980			6	460	40	1,740	
TOTAL [N=18]		Comprehensive			109	2,503	24	1211	19	924	152	4,638	
		Comprehensive Replacement			2	40					2	40	
		for All	24	598	56	1,680	24	738	11	845	115	3,761	

Project Design – Professional Development Information for Other Educators

eMINTS – BUILDING or DISTRICT-WIDE PARTICIPANTS: Numbers of other participants, by building and program type.

NOTE: Following is a brief description other eMINTS professional development program offerings.

- eMINTS for Educational Technology Specialists (PD4ETS) is a two-year “train-the-trainer” program that includes a rigorous certification process with significant levels of support from eMINTS staff both on-site and off. Successful completion of the certification process allows participants to deliver eMINTS professional development to school or district educators for an annual access fee.
- eMINTS for Administrators (eMINTS4Admin) is a one-year program to provide school and district administrators with the knowledge, skills and support needed for a successful schoolwide eMINTS implementation. Participants complete a day-long, face-to-face session, followed by two online webinars and an on-site school visit by an eMINTS staff member or consultant to complete a “walk-through” of the district’s eMINTS implementation.
- eMINTS for Technology Coordinators (eMINTS4Techs) sessions provide district and/or building technology coordinators and other technical staff with the knowledge, skills and support needed for a successful eMINTS implementation. The program involves a two-hour online session in the fall and continues throughout the year via online collaboration tools.

Table 4
eMINTS Buildings – Other eMINTS Professional Development Participants by Grant Type, Grant Year, Professional Development Program, and Building Levels

Program	Grant Year	eMINTS PD	Elementary	Middle	High	District	Total	
Title II.D	Year 1 [N=2]	Administrators	2		1		3	
		Technology Directors	2			1	3	
		Ed-tech Specialists						
	Year 2 [N=8]	Administrators	4	6	1	2	13	
		Technology Directors		1		5	6	
		Ed-tech Specialists		1		4	5	
	Sub-total [N=10]	Administrators	6	6	2	2	16	
		Technology Directors	2	1		5	8	
		Ed-tech Specialists		1		4	5	
ARRA	Year 1 [N=8]	Administrators	9	1			10	
		Technology Directors	2			2	4	
		Ed-tech Specialists		1		3	4	
TOTAL [N=18]		Administrators	15	7	2	2	26	
		Technology Directors	4	1		7	12	
		Ed-tech Specialists		2		7	9	

Project Benefits

1. Describe **how project has changed/is changing teaching** in the building or district.

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton – eMINTS has changed almost completely how teachers teach in their classrooms, which are much more student-centered and almost completely inquiry-based. Teachers serve more as facilitators for learning. Lessons and units are multi-subject instead of single subject. Teachers use more end products for assessing instead of the traditional paper/pencil testing.

Fulton – This project is changing the way teachers plan their lessons. Teachers are looking for ways to address grade level expectations (GLEs) while incorporating constructivist, inquiry-based lessons. These lessons are taking advantage of technology to meet the needs of the students. Teachers are pushing the limits of their own technology knowledge.

Hancock Place – The middle school is a completely different place than it was three years ago. Participating teachers are rejuvenated, their classrooms look and feel different, and they are willing to try new things and have the skills and equipment to do so. They collaborate, creating incredible lesson plans, and have been great role models for teachers in other buildings.

Putnam County – Most notably, teachers are much more comfortable with technology. This will continue to have a direct impact on student learning, beyond the eMINTS classroom. On numerous occasions, I have witnessed eMINTS teachers sharing new ideas with their colleagues, including me.

Richmond – When an eMINTS teacher asked to attend Kagan Structures training for a week in the summer following her first year of eMINTS training, I knew changes were being made. This shift is huge for our district. We struggle with very traditional methods of instruction that rely heavily on worksheets and recall. I am sure many staff members initially felt they were “sold a bill of goods” in terms of what eMINTS would actually involve (not the hours, but the shift in teaching). However, this has been the best thing that has happened in a long time in our district. I so appreciate eMINTS for its intent: true best practices.

School of the Osage – Implementing eMINTS throughout our upper elementary building has resulted in much more collaboration among the teachers sharing of ideas and asking questions, especially among the grade level teams, and lots of inquiry-based learning occurring in the classrooms. Teachers reflect on what and how they teach and extend support of high needs students now that special education and Title I reading teachers are also being trained in eMINTS techniques. (IEP and free/reduced students are our at-risk AYP subgroups each year, most in danger of not meeting the federal NCLB targets so we needed extra support here.)

Sullivan – During the past two years, our teachers have made great progress implementing eMINTS into their classrooms. They are not only incorporating inquiry-based lessons into the curriculum, they are also creating their own inquiry-based lessons to share with each other. Our teachers have made a shift from Technology Literacy to Transforming according to the Grappling's Technology and Learning Spectrum. They are much more comfortable with the entire eMINTS model and continue to enhance student learning at a higher level.

Westran – Teachers are using [taught] strategies, implementing technology and problem-based learning activities. They have created web quests, classroom websites, and inquiry-based lessons.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – High school teachers have changed in a variety of ways, collaborating more at the content level as well as across content areas. They are also incorporating more higher-order student engagement, always looking for ways to incorporate inquiry learning into their curriculum.

Jefferson City –

Teachers have integrated technology successfully according to self-reported results, which were statistically significant. Students have demonstrated statistically significant improvement in math and reading. Students also gained technology literacy skills, based on the National Educational Technology Standards (NETS); the results were statistically significant.

ARRA GRANTS

Cameron – The eMINTS implementation has provided sufficient professional development to provide teachers with the skills and the confidence to embrace inquiry-based learning. Teachers are much more project orientated, with less didactic instructional time witnessed in the classroom.

Teachers expect students to produce end products based on research and examination. Students in eMINTS classrooms are developing a sense of responsibility for their own learning, beginning to meet teachers expectations of creating authentic documentation of what they have learned from research and inquiry conducted through instructor guidance and student effort.

Cassville – The eMINTS project has influenced teachers to use technology in their everyday instructional strategies. Teachers are searching for ways to incorporate the internet, interactive white boards, cameras, and other types of technology in their classrooms. Students and teachers are eager to explore various strategies.

Lebanon – Inquiry-based instruction has increased in all content areas. Professional learning communities (PLCs) are modifying lessons created for eMINTS classrooms to implement in classrooms equipped with minimal student technology. Increasingly, technology instruction is embedded in content lesson plans. The common interest in eMINTS instruction has increased faculty collaboration between PLCs across multiple content areas.

North Kansas City – There has been a major emphasis on students asking questions, finding information and solving problems. According to our year one evaluation significant percentages of students are becoming proficient at this kind of thinking and problem solving. Teachers are more aware of how to get students to answer questions and become problem solvers.

Sedalia – The eMINTS implementation is providing teachers with the training and tools necessary to dramatically improve instruction. As a result, teachers are creating high-quality lessons and becoming more proficient at using technology, as well utilizing the endless opportunities these tools bring to classroom teaching and learning.

Sikeston – The teachers are being introduced to multiple teaching strategies and learning theories. The group is comprised almost entirely of teachers with less than five years of teaching experience, so the role of student is still in their recent memories. As such they have readily absorbed this new instruction and eagerly tried to implement the ideas.

St. Louis City – The eMINTS project transformed teaching to a student-centered model. Teachers developed new strategies to enhance student learning, employing constructivist strategies, developing and promoting an awareness of web resources, and making inquiry-based learning the standard in their classrooms. Teachers have ensured that a culture of rigor permeates the building.

2. Describe **how project has changed/is changing student learning** in the building or district.

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton – Students have become more independent and take responsibility for their learning. They are creative in the use of technology to complete projects, assignments, etc. Students are engaged and motivated to work and come to school. They do not want to leave eMINTS classrooms to move on to the next grade.

Fulton – This project has provided students with opportunities to experience higher-order thinking through the inquiry-based lessons their teachers have created. Students are taking charge of their learning during these student-centered activities. Additional benefits have included more motivated and engaged students based on the paradigm shift in the instructional methods.

Hancock Place – Our students have really embraced the eMINTS model. They love working with the technology and their behaviors have improved on a daily basis. The classroom management has helped them stay on track and appreciate the equipment they have been given. The only

problem seen is disappointment when these students are in a class that is not eMINTS. The 8th-grader students don't want to leave their eMINTS environments to go to the high school.

Putnam County – Students have averaged between one and six percent improvement in twelve of fourteen categories on the National Education Technology Standard (NETS) skills assessment. They demonstrated improved basic operations, productivity, communication skills, research skills, and problem-solving abilities as they relate to technology.

Richmond – Students are involved, not passive. When you enter these classrooms, there is a buzz of energy where students are truly active participants. The “stuff” is not what changed this atmosphere of instruction, the training did. Through parent nights and positive student experiences, eMINTS has a very positive connotation in our district. This program has spread from one building to another and we are hoping (funding available) to support this wonderful initiative in our district through continued training.

School of the Osage – Teachers report that their students are now: more excited, more engaged, accepting responsibility and becoming more self-directed and independent in their learning, more involved in cooperative learning, and eager to continue their learning outside of their classrooms.

Sullivan – Having eMINTS in our classrooms has greatly improved student learning. Our students are becoming more involved in their own learning. They help to create scoring guides, lead classroom discussions, and delve deeper into their own knowledge base to complete projects and tasks. The biggest improvement is that the students are teaching one another and working together to complete tasks. They are aware of their accountability and how it is interdependent of all the members of the group. They are becoming stronger as a community.

Westran – Student learning has changed in the building. There has been an increase in technology literacy skills and an improvement in higher-order thinking skills. Students participated in collaborative learning activities that are researched based. Students are more engaged and motivated to complete grade level expectations.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – The biggest benefit is that students are able to continue, at the high school, the good foundation of inquiry-based learning they were provided at the middle school. Students have been able to hone their computer skills with more advanced projects at the high school.

Jefferson City – Students demonstrated statistically significant improvement in math and reading. Students gained technology literacy as measured by National Educational Technology Standards (NETS); the results were statistically significant.

ARRA GRANTS

Cameron – Students participating in eMINTS classrooms are developing a sense of responsibility for their own learning and beginning to meet teacher expectations of creating authentic documentation of what they have learned from research and inquiry. Students are developing technology skills, working with the internet, computer software and hardware. Both students and teachers have developed greater understandings of working with technology, but it is the change in student expectations and methods of learning that has been most impressive. Greater student involvement and student understanding on small individual projects, produced on a daily basis, demonstrate the overall success of eMINTS. An example is a lesson, transformed from teacher-centered lectures and students memorizing parts of wetland to students creating wetland maps.

Cassville – Student learning was focused more on teacher and textbook learning, but with the incorporation of technology, the focus is student centered with explore and discovery as a main focus.

Lebanon – Instructional Practices Inventory (IPI) data for eMINTS classrooms show increased numbers of students engaged in active learning and student-led conversations. Students are moving from a social use to a more goal-oriented use of technology and digital communication. Increased self-esteem is evident by the increase in student requests to share projects and presentations with others.

North Kansas City – During third-party classroom observations it was clear that students are working in small groups or with other peers. They use materials other than textbooks to participate in the learning process. Teachers provide scaffolding to support students along the inquiry process, but once again students are doing the questioning. Students work with technology on a regular basis.

Sedalia – Students are excited and motivated to use the computers and SmartBoards in the classrooms and are quickly becoming efficient users of technology. Students are engaged and able to use the technology to create products representative of their learning.

Sikeston – The focus is more on learning and less on teaching – which might seem odd since the teachers are spending so much time working on instruction. But it is exactly what we want – flexible teachers whose primary purpose is to help students learn, feel part of a community, and challenge themselves.

St. Louis City – As a result of the new technology and the strategies teachers shared, students are engaged and focused on mastering critical content objectives. Students are more technologically literate. They envision the internet and computer, not only as a source of entertainment, but also as a way to learn and explore.

3. Describe the **most successful activities or outcomes** of the project.

TITLE II.D YEAR 1 eMINTS GRANTS

East Newton – eMINTS has provided the tools and knowledge to build a classroom environment that focuses on a sense of community and true concern for others. The use of “essential questions” and other inquiry-based learning techniques encourage children to take charge of their own learning. Projects such as a nature journal, creative writing, a Web Quest on force and motion, using Smart Notebook in daily math lessons, constructing a timeline using Smart Ideas, etc. motivated and engaged the students. These projects would not have been possible without the training and support teachers received from eMINTS. Participating teachers share what they have learned with other grade levels in the hopes that other teachers will begin to utilize inquiry-based and student-centered approaches to teaching.

Fulton – The changes that have taken place in teachers based on the training have been the biggest success of this project. Without the change to a more student-centered approach none of the other changes or student achievements would have been possible. By exposing themselves to the new ideas and technologies, our teachers made many new opportunities available for their students. Although this change was hard for our teachers at times, their excitement upon completing new challenges made them want to go further.

A big part of this transformation was made possible by classroom visits. These visits by instructional specialists allowed teachers to receive modeling, assistance, and feedback that helped them make changes in their own instructional practices. It also encouraged teachers to

step out of their comfort zone due to the proximity of their observer. These sessions often provided time for the observer to ask questions and share thoughts with the teachers. Most teachers felt that the training alone would not have made as big of an impact on them without these classroom visits.

Hancock Place – Teachers have embraced the professional development, which seemed overwhelming at first, taking much of what they learned and applying it to their classrooms. The entire climate of the building has changed. This has caused the district to take a look at other professional development initiatives in the district and try to model them after eMINTS. The support given not only during the professional development, but also after classroom visits, makes this program so successful.

Putnam County – There are numerous positive outcomes that could be discussed here, but the most successful and pleasing results were the improved technology skills of our teachers and students combined. As a result, our students from this point forward will be better prepared for life after graduation. There is a lot of synergy and excitement when our teachers are actively learning with our students!

Richmond – This is difficult to address as there are so many positive outcomes that we have witnessed. The expansion of eMINTS in our district is probably the most successful outcome. We now have a trained educational technology specialist (ETS) who is working with staff in many of the modules provided through eMINTS, will conclude training for those in year two eMINTS, and work with new groups of trainees in the future. And staff are committed to continued learning. The only negative is that our staff has become “highly marketable” due to this project and several have moved to larger districts. Good for them; bad for us. But despite this “drawback” we will press on and continue this effort!

School of the Osage – Teachers in Year 2 report that this year has been more productive. They are finding more relevant uses for the technology in their classrooms. They state that the initial meetings were more based on how to run the equipment and how to have an eMINTS room and that the meetings now are more curriculum-based, about how to increase students’ depth of knowledge with a good focus on inquiry based learning.

The special ed and Title I reading teachers, in Year 1, report that both the content of the sessions and the classroom visits provided by the district’s are very beneficial. This group also participated in a special data-based research project which involved trying out the Read and Write Gold software package with their special needs students. Various successes were reported for specific groups of students especially in assisting them with their writing and editing skills. It was also interesting to see the results when our ETS also used this software with her class of regular education students. This ETS/4th grade teacher reported the following successes:

“As a regular ed teacher, I used the Read and Write Gold in several different ways. Most beneficial was the use of the program during the writing process. Once students had typed their writings, we would use the program to help us revise and edit. While higher achieving students benefited from this process, I saw most improvement with my Title I students. All four of my Title I students had great success with this. The students were more willing to make revisions, could hear the text being read to them and found editing errors or word omissions, and were very proud of the final products they produced. My Title students then became the experts in the program and shared what they knew with the Title I teachers and with other students in the Title I program. In addition, when working as an ETS, I modeled the program for one of our special ed teachers. Her student was working on spelling words. We have a great discussion about homophones during the lesson. At the end of the week, the student found me in

the hall and told me he loved the program. For the first time all year he had passed his spelling test and he was sure it was because of the program."

Sullivan – The most successful outcome of this project is the strong community among the teachers. They already worked well together before beginning training. Now, however, they look at the longer goal for their classrooms and work together to achieve the highest quality lessons and strive to improve upon them and adjust as needed. Teachers also held an eMINTS Open House for students and parents. Student projects were displayed and parents were able to tour the classrooms and ask questions.

Westran – The most successful outcomes have been the classroom websites, web quests, and inquiry-based lessons. All of these projects promote cooperative learning and constructivist thinking. The focus of these projects was to promote technology literacy, increase MAP scores, and increase higher-order thinking skills.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – Participating teachers are incorporating more community-building activities in their classrooms as well as more student-directed learning activities. They are working at incorporating more inquiry-based teaching strategies into lessons, learning about more online tools (such as WebQuests, Edmodo, and Quizlet) and using them in lessons with students so interactivity is also increasing.

Jefferson City – Teachers have integrated technology successfully according to self-reported results, which were statistically significant. Students demonstrated statistically significant improvement in math and reading and have gained technology literacy as measured by National Educational Technology Standards (with these also statistically significant).

ARRA GRANTS

Cameron – Changes in student expectations and methods of learning have been most impressive. Teaching of the GLEs is being transformed from teacher-centered lectures and student memorization to projects involving greater student involvement and understanding. Small individual projects, produced on a daily basis, demonstrate the overall success of eMINTS.

Cassville – Successful activities include the family eMINTS nights; successful instructional practices include cooperative learning; and successful student outcomes include group and individual projects using technology.

Lebanon – The sixth-grade eMINTS student showcase night was well attended by families and Tech Night attracted 500 fifth-grade students and families who viewed eMINTS projects. Fifth-grade students made extensive use of inquiry-based learning and technology for science fair projects. Literature blogs generated in-depth student reflections.

North Kansas City – Most successful is the number of students mastering or progressing toward mastery of the math communication arts objectives, especially when looking at the percentage of students mastering objectives such as: compares related data sets, determines the likelihood of an event, evaluates data-collection methods, develops research questions, locates/uses various resources to acquire information, collects data using observations, surveys and experiments, creates tables/graphs to represents categorical data, proposes/justifies conclusions based on a given set of data. More specifics are provided in the end of year one summary.

Sedalia – One of the most successful outcomes of this eMINTS implementation is how it benefited the service-learning projects at the school. The professional development assisted our teachers in using cooperative learning, constructivism, and inquiry-based learning when planning

service-learning projects. Students use technology to document and present the progress and outcomes of their projects. For example, one third grade classroom partners with the school library to podcast books online. Students read aloud and record library books on the computer so other students in the building can listen to the story while reading the book. This service-learning project will benefit those students listening (improving fluency/vocabulary), as well as those students who podcast the books (improving fluency). Many other service-learning projects have created successful learning opportunities for our students and benefited the community, such as creating a memorial garden, providing books for babies, hosting a food drive, fundraising efforts for diabetes, cystic fibrosis, and the animal shelter, and seat-belt/car seat safety checks. The teacher training has assisted in improving the instructional activities during these service-learning projects, while the technology has allowed students and teachers to record, communicate, and reflect upon their progress on helping our school and community.

Sikeston – The teachers have really latched on the idea of inquiry, shifting more activities toward being student-centered. There has also been an increase in teacher collaboration and general positivity within the grade level.

St. Louis City – Students have used a number of Web Quests and tutorials as tools to reinforce content mastery and have also used them as successful remediation tools for concepts not yet mastered. Students have gained experiences in communicating ideas through PowerPoint and Publisher, as well as through social networking such as discussion boards and blogs. The classroom website has allowed students access to assignments, suggested readings, and links to concept enrichment. The incorporation of technology has allowed teachers to step away from the front of the classroom and work individually with struggling students while allowing the advanced students to work on enrichment opportunities. Students in the eMINTS classrooms excelled primarily because the teachers were armed with useful strategies and students were engaged in this innovative approach to learning. District-wide benchmark assessments indicate that students developed higher levels of proficiency in the eMINTS classrooms. Preliminary scores also indicate that students scored better this year on the content-based assessments than they did last year without the technology. It is clear that with continued exposure to eMINTS classroom and strategies, students will make marked gains in academic achievement.

Project Goals and Objectives

eMINTS Project Goals

The primary goal of all eMINTS project implementations is to provide quality professional development that helps educators integrate technology in proven, research-based instructional strategies, resulting in improved student academic achievement and technology literacy skills.

eMINTS Project Objectives

Missouri grant recipients are required to report annually on objectives related to 1) student academic performance, 2) student technology literacy, 3) enhanced teacher instructional strategies, and 4) increased teacher proficiency in using technology. In some cases, district projects identified additional goals (such as higher attendance rates, fewer disciplinary referrals, or improved parent involvement).

NOTES: The University of Missouri Assessment Resource Center (ARC) and Office of Social and Economic Data Analysis (OSEDA) refer to external evaluators. OSEDA Student Technology Skills Survey was adapted with permission from the Bellingham Public School student survey for elementary and middle school students, and the ISTE National Educational Technology Standards. OSEDA lesson typology includes teacher-centered, student-centered, and hybrid, and OSEDA student engagement scale ranges from low to moderate (students need motivation before beginning work on a teacher-directed assignment) to high (students willing to participate,

concentrating on the learning task, following teacher directions, and contributing to discussions). OSEDA uses the Missouri School Improvement Program's Advance Questionnaire (AQ).

TITLE II.D YEAR 2 eMINTS GRANTS

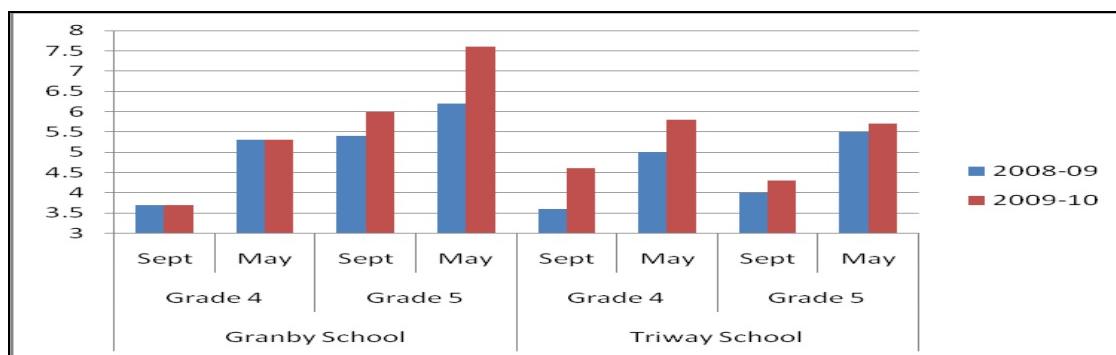
East Newton – ELEMENTARY IMPLEMENTATION: 2 SCHOOLS, 260 STUDENTS, GRADES 4-5, 10 TEACHERS (6 COMPREHENSIVE, 4 FOR ALL CLASSROOMS), FOCUSING ON ALL CORE CONTENT AREAS

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **Participating students will demonstrate an average gain of no less than 1 year for each year of the project on the 4th and 5th-grade STAR Math assessments.** Each year, the baseline STAR Math assessment will be administered by the Title I teacher during the first two weeks of school and the last month of the school year. The scores will be analyzed by both the Title I teacher and the classroom teachers.

Results: The objective was met. As depicted in figure 5, 4th-grade students demonstrated, on average, a 1 year, 5 months gain in 2008-09 and in 2009-10, and 5th-grade students demonstrated a 1 year gain in 2008-09 and 1 year, 5 months in 2009-10.

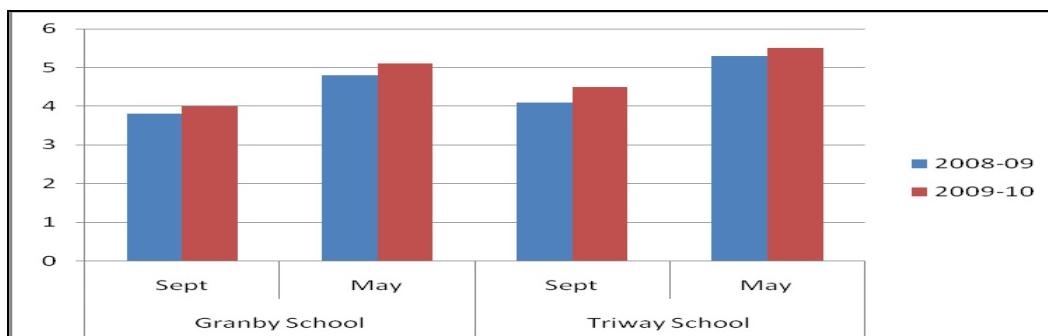
**Figure 5
Pre and Post STAR Math Assessment Scores for Granby and Triway Schools, 2008-09 and 2009-10**



2. **Participating fourth-grade students will demonstrate an average gain of 1 year, 2 months on the STAR Reading assessments for each year of the project.** Each year, the baseline STAR Reading assessment will be administered by the Title 1 teacher during the first two weeks of school and the last month of the school year. The scores will be analyzed by both the Title 1 teacher and the classroom teachers.

Results: Objective was not met either year. 4th-grade students averaged gains of 1 year, 1 month in 2008-09 and 1.0 in 2009-10. Of students pre-assessed as reading below grade level, half made 1 year gains. As Figure 6 shows, however, both the pre- and post-test scores were slightly higher in year two (2009-10) than in year one (2008-09) of the project.

**Figure 6
Pre and Post STAR Math Assessment Scores for Granby and Triway Schools, 2008-09 and 2009-10**



3. At least 70 percent of participating students will master 80 percent of the math and communication arts grade level expectations (GLEs) for each year of the project.

Student grades will be aligned to the Grade Level Expectations (GLEs) using SIS curriculum and grade book programs. Participating teachers will align student assignments to the GLEs, will test for mastery, and will report student mastery percentages to the Leadership team.

Results: Objective was partially met in the first year of project implementation and substantially met in year two. As detailed in Table 7, over 70 percent of 4th-grade students mastered at least 80 percent of the GLEs for both subject areas and both years of the project, and over 70 percent of 5th-grade students mastered at least 80 percent of the math GLEs in 2009-10 only. In all cases, higher rates of mastery were achieved during year two of the project. Overall,

- 97 percent of 4th-graders achieved mastery of the math GLEs in year two, compared to 85 percent in year one,
- 98 percent of 4th-graders achieved master of communication arts GLEs in year two, compared to 82 percent in year one, and
- 81 percent of 5th-graders achieved mastery of the math GLEs in year two, compared to 52 percent in year one.

Table 7

Students meeting Math and Communication Arts GLE Mastery for Granby and Triway Schools, 2008-09 and 2009-10

Grade Level	Grant Year	School	Mathematics		Communication Arts	
			Total Students	Scoring ≥80%	Total Students	Scoring ≥80%
4	2008-09	Triway	46	83%	46	74%
		Granby	73	86%	73	86%
	2009-10	Triway	57	96%	57	95%
		Granby	72	97%	72	100%
5	2008-09	Triway	56	35%	NA	
		Granby	74	65%	NA	
	2009-10	Triway	48	83%	NA	
		Granby	75	80%	NA	

4. 4th and 5th-grade will score at least 80 percent technology literacy in responsible use, Internet use, presentation, and software facility, as measured by pre-post survey findings. Students will take the Student Technology Skills assessment provided by OSEDA and administered by local computer lab teachers.

Results: Objective was met. In spring 2010, 100 percent of participating students scored at least 80 percent on the technology literacy assessment, compared to 94.75 percent of participating students in 2008-09.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

5. Participating teachers will meet year one and year two Hallmarks of an Effective eMINTS Classroom “look fors” as measured during administrative walk-throughs of the classrooms. By June 1 each, the principal and an eMINTS representative will conduct a walk-through of all eMINTS and eMINTS4All classrooms using the walk-through instrument based on the Hallmarks of an Effective eMINTS Classroom. Teachers will achieve a rating of transitional on at least 80 percent of the look-fors found in the Hallmarks of an Effective eMINTS Classroom.

Results: Objective was met. In both years of the project, walk-throughs were conducted by the principals. More than 80 percent of Hallmark indicators were marked at transitional or above.

6. **Participating teachers will show a 20 percent increase in technology and integration skills for each year of the project.** The Levels of Technology Instruction (LoTi) survey will be conducted in the fall and in the spring as a local assessment. The fall survey will provide baseline information and will be compared to the spring scores. LoTi has 4 levels possible, and the goal is to increase 1 level per year. The Level of Technology Implementation (LoTi) portion of the DETAILS for the 21st Century Questionnaire assesses the participant's level of implementing or supporting the instructional use of computers in the classroom. The Personal Computer Use (PCU) portion of the DETAILS for the 21st Century Questionnaire assesses the participant's comfort and skill level with using computers and related technologies. The Current Instructional Practices (CIP) portion of the DETAILS for the 21st Century Questionnaire assesses the participant's current instructional practices relating to a subject-matter versus a learner-based based curriculum approach.

Results: Objective was not met. The average of the LoTi scores did not show a one year increase in technology and integration skills; rather, the averages remained about the same. These findings correspond to OSEDA observations that indicated teachers appeared to be comfortable with the technology being used, but were not yet truly integrating technology into the classroom.

ADDITIONAL OBJECTIVE

7. **Participating students will demonstrate increased time on task, resulting in a 25 percent decrease in student discipline referrals for each year of the project.** The building principals will compare the number of 2007-08 student discipline referrals in grades 4-5 with the number of referrals for 2008-09 and 2009-10.

Results: Objective was partially met. While overall referrals decreased by 23 percent in year one and decreased by 58 percent in year two, most of the decreases occurred in the 4th grade. As seen in Table 8, referrals for 4th-grade students in eMINTS classrooms decreased each year of the project, in each building, meeting the 25 percent decrease target in three of four cases. The decrease in the total numbers of referrals for 4th-graders also met the target each year. On the other hand, the number of referrals for students in the 5th grade fluctuated widely, meeting the target in two of four cases, with one case meeting the target because of a big increase in referrals the year before.

Table 8
Student Referrals in Granby and Triway Schools, 2007-08, 2008-09, and 2009-10

Grade	School Building	2007-8 Student Referrals	2008-09 Student Referrals	Target Met FY08 to FY09	2009-10 Student Referrals	Target Met FY09 to FY10
4	Triway	37	23	✓	3	✓
	Granby	39	31		6	✓
	Sub-Total	76	54	✓	9	✓
5	Triway	11	53		19	✓
	Granby	33	21	✓	24	
	Sub-Total	44	74		43	✓
TOTAL		120	128		52	✓

Fulton – ELEMENTARY IMPLEMENTATION: 3 BUILDINGS, 463 STUDENTS, GRADES K-5, 24 TEACHERS (9 COMPREHENSIVE, 15 FOR ALL CLASSROOMS), FOCUSING ON COMMUNICATION ARTS AND MATH

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **Students in grades 3-5 will increase their reading skills, as measured by the Gates-MacGinitie reading test, by 0.8 Total Grade Equivalent Score (GE).** Teachers will administer the tests and compare spring 2009 scores against the spring 2008 scores.

Results: Students far exceeded the objective in 2009 by experiencing a 1.26 mean GE improvement in grade 4 and a 1.65 mean GE improvement in grade 5. As a result, the district determined it was not necessary to continue using the Gates-MacGinitie reading test in 2009-2010 in the eMINTS grades.

2. **Increase by 3 percent increase the number of students in Grades 2-5 reading at or above grade level as measured by the Rigby Reading Evaluation and Diagnostic System (READS) on-line assessment.**

Results: The objective was met substantially. The target was far exceeded in 2009, with a 29.5 percent increase in the number of students reading at or above grade level, and again in 2010 with a 33 percent increase.

3. **Participating students in grades 2-5 will show an average increase of 0.8 on the Instructional Reading Level (IRL) as measured by the STAR Reading Test.** Teachers will administer the on-line assessment in fall 2008 and spring 2009 and compare the results. [Note that this is a change from using the DIBELS Oral Reading Fluency (DORF) test, as its use is being discontinued after the 2008-09 school year. Since the STAR test will be used for the foreseeable future it was believed to be a suitable replacement instrument.]

Results: Students increased their STAR Reading Test IRL scores by 0.8 in 2009, showing growth in reading ability over the year and meeting the objective, and by 1.1 in 2010.

4. **Participating students will show an overall increase in a combined mean score of 0.5 as measured by a technology literacy survey.** Students in new Comp eMINTS classrooms will complete a survey (provided by ARC) in the fall and spring and the scores will be compared to assess the percent change over the year.

Results: Objective was met. In 2009, there was a 0.5 increase in the mean, exactly meeting the objective; and the mean score computed for all students showed a 1.2 increase from fall 2009 to spring 2010.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

5. **Comprehensive eMINTS teachers, in grades 3 and 4, will implement the Hallmarks of Effective eMINTS Classrooms: 75 percent of teachers in year one and 85 percent of teachers in year two will meet at least 50 percent of their appropriate Hallmark “look fors” as measured by principal classroom observations.**

Results: The objective was met. In spring 2009, when teachers had been using their computers for a few months, every teacher (100 percent) met over 50 percent of the subcategories of the year one, second semester look-fors – a large improvement from the early period when approximately 56 percent of the teachers were at this level. In spring 2010, all teachers (100 percent) were observed practicing 50 percent or more of year two, semester two look fors.

6. **Participating teachers will show a 10-point increase in technology and integration skills as measured by a district rubric based on the Hallmarks of an Effective eMINTS Classroom.**

Results: The objective was met. In spring 2009 the mean score was 87.5 compared to a fall 2008 mean score was 73.4, showing an overall increase of 14.1 points. The spring 2010 mean score was 97.4 showing a 9.9 increase from spring 2009 and a 24-point increase from fall 2008.

7. **Participating teacher mean scores in technology literacy will improve, by 4 percent in year one and by 6 percent in year two, as measured by the eMINTS Teacher-Literacy Skills Survey.** Teachers will be given the survey at the beginning of the school year and then again at the end of the year.

Results: Objective was met. In 2008-09, teachers did much better than the goal as they improved by 18 percent. The eMINTS teachers increased their mean score by 30 percent in 2009-10, with a mean score of 3.9 in spring 2010 and a score of 3.0 in fall 2009.

Hancock Place – MIDDLE SCHOOL IMPLEMENTATION: 410 STUDENTS, GRADES 6-8, 14 TEACHERS (10 COMPREHENSIVE, 4 FOR ALL CLASSROOMS), FOCUSING ON COMMUNICATION ARTS, MATH, AND SCIENCE

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

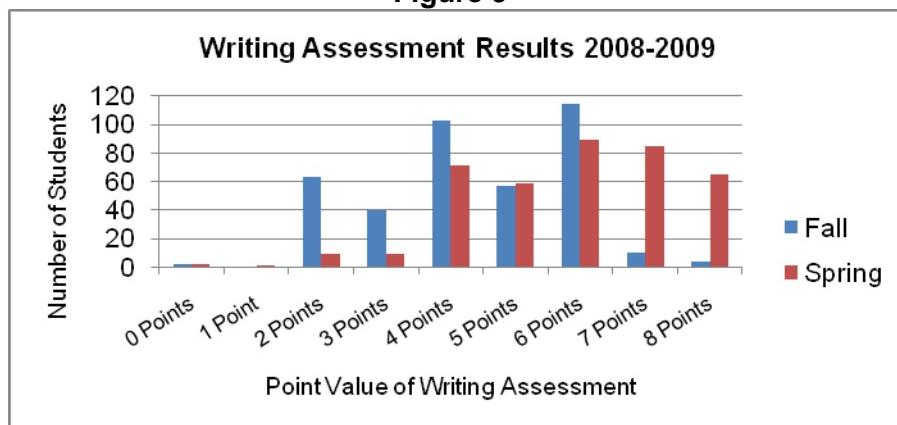
1. **Improve student achievement as measured by the Gates-MacGinitie by 5 percent in the Comprehensive and eMINTS4All classrooms, grades 6-8, in Year 1 of the grant.**

Results: Objective was met. The percentage of participating students scoring at or above grade level as measured by the Gates-MacGinitie improved from 40 percent (fall 2008) to 48 percent (spring 2009). The largest increase was noted in grade 6 (from 33 percent to 56 percent), followed by Grade 7 (from 41 percent to 48 percent), while Grade 8 scores were slightly lower from fall to spring. For students who scored two or more years below grade-level, the percentage dropped from 21 percent in the fall to 18 percent in the spring. Again, the greatest impact was in Grade 6 (from 18 percent to 8 percent), followed by Grade 7 (21 percent to 18 percent), with fairly flat rates noted for grade 8.

2. **Improve student achievement as measured by district writing assessments in Year 1 of the grant.** A representative from each grade level will participate in scoring, using an established eight-point rubric. The intent is for fewer students to score in the 0-5 categories of writing and more students in the 6-8 categories. The results will be shared with balanced literacy teachers to drive instruction in areas of weaknesses and strengths.

Results: Objective was met. The chart below indicates the number of writing assessments by point value, for fall 2008 and spring 2009. While the majority of writing assessments still scored 4-6 points in the spring, there was a marked jump in the numbers scoring 7 and 8 points.

Figure 9



- 3. Students levels of engagement will increase, measured by external evaluator classroom observations, as a result of the grant.** Student engagement will be observed in 2008-09 and 2009-10 with the expectation that there will be a substantial increase in student engagement observed in Year 2 of the grant.

Results: The objective was met. In 2008, four of ten classrooms were observed to have a “high” level, four to have “moderate” and one to have “low” of student engagement. According to the external evaluator report, there was a substantial increase in the quantity and quality of student engagement observed in 2010. Students were engaged in hands-on activities and given choices about parts of their activities such as graphics, format for sharing information, and in some cases project content.

- 4. Students will improve their technology literacy scores as measured by external evaluator classroom observations and a pre-post technology survey, each year of the grant.**

Results: Objective was met each year. During the initial 2008-09 classroom observations, students were observed interacting with software on SmartBoards. In 2009-10 classroom observations and teacher and student interviews indicated students find more applications for using technology, have greater detailed knowledge of software functions, and use computer access at home. The 2009-10 observations noting technology was used for instructional purposes in all classrooms, a positive difference from that observed in 2008.

With regards to the OSEDA Student Technology Online Survey, students scored high (above 4.0) in 2008-09 on responsible use, presentation and basic computer use scales, scored high in most items of the Internet scale, but scored significantly lower on items in the spreadsheet scale. The Wilcoxon signed-rank (or matched-pairs) test was used in 2009-10 to determine statistical significance between fall and spring scores. The Wilcoxon factors in the size (how large a difference from the median value) and well as the sign of the paired differences (above or below the median), assessing the null hypothesis that the medians of the two samples do not differ.

Table 10 below shows the scales that were found to be statistically significant. [See Year 1 Report for more information on the questions comprising the scales.] As indicated in the table, more items were found to have statistical difference for students in grades six and seven than in grade eight. All grades showed significant increase in students’ use of email and the Internet.

**Table 10
Student Technology Survey Responses – Comparison of Fall 2009 and Spring 2010 Scores**

Student Technology Survey Scale	Grade Level	Fall Mean	Spring Mean	Significance Level
Basic Computer	6	4.37	4.57	.017
Email	6	3.71	4.15	.002
	7	4.02	4.29	.046
	8	3.53	3.88	.015
	6	3.82	4.10	.048
Word Processing	7	3.86	4.32	.001
	6	3.35	3.68	.014
Spreadsheet	7	3.51	3.93	.005
	6	3.94	4.20	.011
Internet	7	4.10	4.39	.015
	8	4.15	4.32	.031
	7	4.27	4.50	.046
File Management				

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

5. Teachers will facilitate environments that increasingly promote inquiry-based learning and technology integration according to external evaluator and building administrator classroom observations, using a checklist aligned to the Hallmarks of an Effective eMINTS Classroom and district-defined measures.

Results: Objective was met in 2008-09. Initial OSEDA observations, conducted in 2008, indicated three of the ten eMINTS lessons observed were teacher-centered, two were student-centered facilitated, and four were hybrid. The highest frequency of any instructional method observed (in eight of the ten lessons) was group work. Table 11 lists the prevailing practices (found in at least 40 percent of classrooms) observed during 44 observations conducted in spring 2009 by the school administrator

Table 11
Prevailing Instructional Practices Observed in Spring 2009

Prevailing Practices Observed Spring 2009
Students are observed
<ul style="list-style-type: none"> • working in pairs or small groups • sharing ideas and questions with their peers • providing more than yes/no answers
Teacher is observed:
<ul style="list-style-type: none"> • offering opportunities for students to ask questions for clarification • modeling what is expected of students • supplementing textbook, district-provided materials with additional resources • using/modifying scoring guides as additional forms of assessments

Table 12 notes the prevailing practices observed by ten administrator eWalks conducted in spring 2010. As seen in the table, the number of prevailing practices observed in 2010 was three times higher than the number observed in spring 2009.

Table 12
Prevailing Instructional Practices Observed in Spring 2010

Prevailing Practices Observed Spring 2010	Observation Rate
Classrooms are observed:	
<ul style="list-style-type: none"> • having norms or rules displayed 	60%
Students are observed:	
<ul style="list-style-type: none"> • sharing knowledge through discussion or presentations • providing more than yes/no answers • actively engaging in interdependent small group work • asking peers for advice or assistance • sharing ideas and questions with their peers • using technology for specific amounts of time and specific tasks • using technology as a learning tool • working on a project • working together in pairs • working in pairs on the computers <ul style="list-style-type: none"> ○ groups have been selected by various methods 	50%
	50%
	50%
	40%
	40%
	40%
	40%

Prevailing Instructional Practices Observed in Spring 2010 (continued)

Teacher is observed:	
• offering opportunities for students to ask questions for clarification	50%
• sharing and discussing curriculum goals with students and parents through traditional methods	50%
• creating authentic assessments aligned to standards	50%
• allowing external sources of information, help, or input	50%
• using scaffolding to help students manage time and behaviors	50%
• asking questions to stimulate curiosity and critical thinking	40%
• using various types of questions to promote critical thinking and inquiry	40%
• exploring opportunities for additional information/help/input from external resources	40%
• using SMART Board as an interactive tool	40%
• using technology as an interactive mind tool	40%
• developing scoring guides to assess student performance	40%
• using a variety of methods to communicate expectations for assessment	40%

Putnam County – DISTRICT IMPLEMENTATION: 521 STUDENTS, GRADES 4-12, 15 TEACHERS (12 COMPREHENSIVE, 3 SPECIAL EDUCATION CLASSROOMS), FOCUSING ON COMMUNICATION ARTS AND SCIENCE

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **80 percent of targeted students will demonstrate a 75 level of mastery on district-developed common assessments of science and communication arts based on state grade/course-level expectations (GLE/CLEs) in spring 2009, and 80 percent will score "proficient" on science and communication arts level-three depth of knowledge assignments in spring 2010, placing emphasis on strategic thinking.**

Results: Progress was noted both years of the grant. Pre-post common assessments given 2008-09 in math and science classrooms (grades 4-12) noted improvements in each class and subject. Six of eleven classes averaged 75 percent proficiency, a level not reached for grades four and five in communication arts and grades five and six in science.

In 2009-10 the objective was met for communication arts and was close to being met in science. As shown in Table 13, the scores were strongest in the fourth grade for both subjects. The science raw scores indicate a large discrepancy between grades four and five. It should be noted, however, that four fifth-grade students were within 1-2 percentage points of meeting the 75 percent proficiency target in science. It should be noted, however, that when included the proficiency rate for the fifth-grade increased to 80 percent for grade five, thus meeting the target.

**Table 13
Students Scoring At/Above Proficient in Communication Arts and Science**

Subject	Grade Level	Average Proficiency	Students Scoring Proficient (>75%)	Target Status
Communication Arts	4	94.2%	94.1%	Met
	5	83.6%	80.3%	Met
	6	83.3%	84.2%	Met
	7	86.0%	91.8%	Met
Science	4	87.5%	91.2%	Met
	5	77.0%	70.5%	Not Met

2. Targeted students will score at least 75 percent on district-developed, grade-appropriate student technology standards/indicators aligned to the NETS.

Results: Student technology literacy was assessed both years of the project. Table 14 lists the results, by skill assessed, project year, and percent change from year one to year two. As noted, progress was seen in several areas: basic technology operations proficiency and the use of technology to enhance learning, interact with others, and solve problems. The latter skills would be considered higher depth of knowledge, and this finding is consistent with the reported DOK assignments in the previously stated objective.

**Table 14
Change in District's NETS Scores from Year 1 to Year 2**

Student Educational Technology Standard/Indicator	Year 1	Year 2	Change
Basic Operations and Concepts – Students...			
• demonstrate sound understanding of nature and operation of technology	43%	43%	0%
• are proficient in the use of technology	57%	63%	+6%
Social, ethical & human issues – Students...			
• understand ethical, cultural and societal issues related to technology	47%	49%	+2%
• practice responsible use of technology systems	58%	59%	+1%
• develop positive attitudes toward technology uses that support lifelong learning, collaboration and personal pursuits	77%	81%	+4%
Technology Productivity – Students...			
• use technology tools to enhance learning, increase productivity, and promote creativity.	43%	48%	+5%
• use productivity tools to collaborate in constructing tech- enhanced models, prepare publications, and produce other creative works.	39%	41%	+2%
Tech Communication Skills – Students...			
• use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.	47%	52%	+5%
• use a variety of media and formats to communicate information and ideas effectively to multiple audiences.	48%	53%	+5%
Technology research – Students...			
• use technology to locate, evaluate, and collect information from a variety of sources.	45%	45%	0%
• use technology tools to process data and report results.	50%	52%	+2%
• evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.	56%	57%	+1%
Tech problem-solving – Students...			
• use technology resources for solving problems and making informed decisions.	34%	36%	+2%
• employ technology in development of strategies for solving problems in the real world.	50%	55%	+5%

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. Participating teachers will make adequate progress by achieving a rating of “transitional” on at least 80 percent of the Hallmarks of an Effective eMINTS Classroom as measured by walk-through observations conducted by principals and an eMINTS representative.

Results: The objective was met each year of the project. Classroom walkthrough were conducted with the eMINTS representative and three building principals in November 2008 and by external evaluation observers for both years of the project, one in 2008-09

serving as the baseline and two conducted in 2009-10 to note any changes. All observations used a scoring guide aligned to the Hallmarks of an Effective eMINTS Classroom. Specifically, observers looked for (1) teacher-facilitated learning; (2) student-centered learning; (3) teaching pedagogy and learning strategies to implement standards based curriculum; (4) community of learners; (6) technology richness; and (7) assessment of student performance in the context of inquiry-based learning.

In 2008-09, teachers were each doing 80 percent of the Year 1 Hallmarks “look-fors,” as evidenced by the observation forms kept by the respective principals. In year two, external evaluator observations indicated participating teachers were meeting the targets for each of the seven Hallmarks categories.

4. Participating teachers will increase technology integration and literacy skills each year of the project as measured by classroom observations and teacher responses to the eMINTS Teacher Technology Literacy Skill Survey.

Results: Objective was met. In year one, 44 percent of district eMINTS teachers said students spend 30 to 60 minutes per week using technology while at school, with 6 percent responding that student use exceeds 2 hours per week. For some, that number increased from 0 minutes simply because the technology was not available to them or their students in the past before the grant implementation. Examination of the eMINTS TTLSS, comparing pre and post-survey responses, indicated gains for 71.85 percent of the items.

Richmond – ELEMENTARY IMPLEMENTATION: 274 STUDENTS, GRADES 4-5, 13 TEACHERS (7 COMPREHENSIVE, 6 FOR ALL CLASSROOMS), FOCUSING ON ALL CONTENT AREAS

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. Improve levels of student engagement in learning, each year of project, resulting in improved reading and comprehension for grades 4 and 5.

Results: Objective was met. The 2008-09 Developmental Reading Assessment (DRA) scores for grade four indicated 70 percent of students scoring at or above grade level in the spring, representing a 34 percent increase from fall scores. Grade five DRA scores indicated 62 percent of students reading at or above grade level compared to just 36 percent in the fall. Progress monitoring using a new reading series and classroom assessments, found fourth-grade students were making gains in the area of communication arts. In 2009, the “comprehensive” group of students, then 3rd graders demonstrated 21.4 percent advanced and proficient on the communication arts portion of MAP. These students, when tested as fourth graders after their immersion in eMINTS, demonstrated 41.5 percent in advanced and proficient, a gain of 20.1 percent. Similarly, the group of 4th graders in 2009 moving through a first year of eMINTS Comprehensive and then a 5th grade year of eMINTS 4All, demonstrated a 12.6 percent increase in their advanced and proficient MAP scores in communication arts.

According to classroom observations and teacher and student interviews, participating students are more engaged taking more responsibility for their learning. Observations indicated greater use of varied instructional practices and student-centered lessons in 2009-10 than observed in 2008-09. According to external evaluator-conducted interviews in May 2010, teachers believe students are reaching higher levels of academic achievement, citing increased motivation and excitement about learning in the eMINTS classrooms. Teachers described situations where students that have trouble paying attention in class, especially special education students, now want to be part of activities because they like using the technology. Students eagerly pursue research topics and appear to retain information longer.

2. Students will improve technology literacy skills each year of project, as measured by external evaluator classroom observations and pre-post technology surveys.

Results: Objective was met. Participating students took the Student Technology Survey both years of the project. In 2008-09 students had the highest means on the scales for basic computer use, file management, word processing, and presentation. The Wilcoxon signed-rank (or matched-pairs) test was used to determine statistical significance between fall and spring scores. Table 15 below shows the scales that were found to be statistically significant in 2009-10. [See Year 1 Report for information on the questions comprising the scales.] As indicated in Table 15, more items were found to have statistical difference for students in grades five than in grade four. Both grades showed significant increase in basic computers and graphics.

Table 15
Student Technology Survey Responses – Comparison of Fall 2009 and Spring 2010 Scores

Student Technology Survey Scale	Grade Level	Fall Mean	Spring Mean	Significance Level
Basic Computer	4	3.74	4.38	.045
	5	4.22	4.51	.041
Graphics	4	4.14	4.69	.003
	5	3.85	4.55	.001
Word Processing	5	3.83	4.28	.037
Spreadsheet	5	2.74	3.50	.001
Internet	5	3.16	3.55	.019
File Management	5	3.56	4.40	.000
Presentation	5	4.05	4.45	.020

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. Teachers will facilitate an inquiry-based learning environment as measured by OSEDA classroom observations and structured teacher discussion and administrator walkthrough findings.

Results: Objective was met. According to initial [2008-09] OSEDA observations, in four of six classrooms lessons were teacher-centered and two were hybrid; in four classrooms communication and interactions in the classrooms were described as good or superior, with most teachers modeling expected standards and behavior to their students; and, the most prevalent instructional delivery methods observed were class discussion, group work, and question and answer, observed in five lessons. According to administrator walkthroughs, students were observed in pairs or small groups working on different activities while the teacher facilitated students' learning. While general knowledge was provided by teachers, students are expected to research and obtain more knowledge through investigation and inquiry methods. The principal noted the use of a variety of questioning techniques to promote critical thinking.

According to 2009-10 walk-throughs and professional learning community visits with administrators, teachers in the eMINTS 4All and eMINTS Comprehensive programs were able to communicate frequently with each other and the building administrators. Building administrators noted increase in inquiry-based instruction occurring in all classrooms. Some obstacles noted were textbook "constraints" and the battle between sticking to this resource and implementing best practices. Because of this, many valued and valid conversations occurred about best practices and reflection of instructional methods.

4. Teachers will increase technology integration and literacy each year of project as measured by pre-post survey, classrooms observations, and structured teacher discussion group.

Results: Objective was met by end of project. After year one of eMINTS implementation, results were not as outstanding as hoped. However, year two change was noted and likely occurred as a result of continued training and a shift in instructional practices. These findings are corroborated by staff surveys and interviews and classroom observations. Teachers indicate that the best results from receiving the professional development is improved collaboration, use of constructivist approach, evidence of higher levels of thinking, use of technology, and be able to reach outside of the classroom. During the external evaluator's final observation period, all teachers were noted using some form of technology and appeared skilled at using the chosen application.

School of the Osage – ELEMENTARY IMPLEMENTATION: 413 STUDENTS, GRADES 3-5, 22 TEACHERS (6 COMPREHENSIVE, 16 FOR ALL CLASSROOMS), FOCUSING ON COMMUNICATION ARTS AND MATH

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1A. 60 percent of targeted students, grades 3-4, will score “proficient” or higher on the MAP communications arts test at the end of year one.

Results: The April 2009 MAP communications arts results show 53 percent of students in grade 3 and 49 percent in grade 4 meeting the “proficient” target, compared to 44 percent and 41 percent, respectively, in April 2008. The progress noted in year one – before teachers had a full year of implementation – suggests the district should reach the 60 percent objective by the end of year two.

1B. 60 percent of targeted students, grades 3-4, will score “proficient” or higher on at least two grade-appropriate MAP-like constructed response items and 10 selected response items at the end of year two. Students will complete the MAP-like assessment items during the district's February-March MAP review period. Scores will be computed by grade-level teams using scoring guides published on the DESE website. Appropriate constructed response items will be selected from MAP and/or NAEP released items, Mathematics Assessment Sampler (NCTM) items, and other appropriate resources as approved. Teachers will score each other's student responses for impartiality.

Results: While this objective is not met, progress is noted. Student performance increased in communication arts as measured by the local common MAP-like assessments by 48 percent in grade four over the two-year period, and increased by 27 percent in grade three, but neither grade reached the 60 percent proficient target. As shown in Table 16, third-grade students had a 48 percent improvement from year one to year two of the project, while the fourth-grade students showed a 16 percent increase.

**Table 16
Students Scoring at/above Proficient on Local MAP-Like Communication Arts
for Years 2008, 2009, and 2010**

Grade Level	Percents of Students Proficient and Above	
	2008-09	2009-10
3	40%	59%
4	44%	51%
5	NA*	NA*

* Comparable scores not available due to changing test items between 2008-09 and 2009-10

It is anticipated that more dramatic increases will be noted in subsequent years now that the teachers have completed their training. It is also anticipated that the special needs students will begin to show more improvements in their performance as their special ed and Title I reading teachers complete the implementation of the eMINTS programming after their second year of training.

Also examined was schoolwide MAP performance in the year preceding eMINTS and at the end of the first year one of eMINTS training. Table 17 shows the rate of students scoring at least proficient on the regular MAP Communication Arts test for school years 2007-08, 2008-09, and 2009-10. While the 2010 scores are not yet available, there is a marked positive difference between the scores the year prior to and the first year of the eMINTS implementation. There was a 20 percent increase in the number of students at proficient and above for grade three and a 19.5 percent increase for grade four. The district will continue to collect data regarding this indicator by reviewing the results of the MAP administration from April, 2010 as soon as those scores are available.

Table 17
Students Scoring at/above Proficient on State MAP Communication Arts
for Years 2008, 2009, and 2010

Grade Level	Percents of Students Proficient and Above		
	2008 MAP	2009 MAP	2010 MAP
3	44%	53%	NA*
4	41%	49%	NA*

* 2010 MAP scores to be released in fall 2010.

2. In year one of the project, student learning will improve as measured by levels of student engagement in the eMINTS classrooms using the Instructional Practices Inventory (IPI). Student engagement data will be collected by the district in late April using the IPI.

Results: IPI Data showed that student engagement in the new eMINTS classrooms was 25 percent compared to 62.5 percent in the experienced classrooms. But “students actively engaged and students working with teacher engaged” was 69 percent in the new eMINTS classrooms as compared to 75 percent in the experienced classrooms. Since this is the first year and classrooms were not equipped for full implementation until second semester, it is believed that these percents will improve significantly during the coming year. According to OSEDA classroom observations, student engagement was high in five of six classrooms.

3. Students will improve their technology literacy scores each year of the project as measured by external evaluator classroom observations and a pre-post technology survey.

Results: Objective was met. In 2008-09, a total of 357 students completed the Student Technology Skills survey: 152 in Comprehensive eMINTS and 205 in eMINTS4All classrooms. Results indicated students in Comprehensive eMINTS rooms, had a positive increase in responsible use, basic computer use, file management, email, word processing, graphics, spreadsheets, Internet, and presentation. In the eMINTS4All rooms, there was a positive increase in basic computer use, word processing, graphics, and presentation.

Table 18 compares 2009-10 mean scores for students in eMINTS Comprehensive and eMINTS4All classrooms. Students of Comprehensive eMINTS teachers the survey shows the most student improvement in Internet usage, word processing, file management, presentation development, and spreadsheets. Students of the 4All teachers had the most improvement in graphics, presentation skills, basic computer usage, word processing, and use of search engines. Analyses indicated students in the Comprehensive eMINTS rooms are proficient (rating 3 or higher on a 5-point scale) on seven of nine teach usage categories; 4All students rated themselves as proficient on three of four categories..

Table 18
2009-10 Student Technology Skills – Comparison of Comprehensive and 4All Classrooms

Student Technology Survey Scale	Comprehensive Classrooms		4All Classrooms	
	Mean	% with Improvement	Mean	% with Improvement
Responsible Use	4.32	43%		
Basic Computer Use	4.03	47%	4.03	45%
File Management	3.45	57%		
Email	2.9	44%		
Word Processing	3.76	58%	3.56	43%
Graphics	3.44	53%	2.88	50%
Spreadsheets	2.29	55%		
Internet	4.11	67%		
Presentations	3.95	56%	3.44	48%

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

4A. In Year 1, participating Comprehensive eMINTS teachers will show increased technology integration as measured by the Hallmarks of an Effective eMINTS Classroom look-fors, conducted by the building principal.

Results: During the first semester walkthroughs with an eMINTS representative 30 percent of the teachers were using technology in their lessons. In the second semester, the principal noted 42 percent of the teachers were using technology in their lessons. While the increase in technology usage is below our anticipated gain, it is far better than before the project started. According to initial OSEDA classroom observations, communications and interactions in five of six classrooms were good or superior. The Comprehensive eMINTS teachers were using technology and appeared comfortable with the use. With regards to instructional strategies, all six classrooms were teacher-centered with students involved mostly in group work, guided practice, question and answer, and seat work.

4B. In Year 2, Comprehensive and eMINTS4All teachers will submit two model grade-appropriate learning activities, one in communication arts and one in mathematics, that successfully meet eMINTS-established criteria. The learning activities will be submitted to eMINTS for review. An aggregate score for all teachers will be submitted by the project contact in the end-of-Year 2 Project Evaluation Report.

Results: Technology integration in curriculum and instruction was demonstrated by participants' inquiry-based lessons focusing on the grade-level expectations as evaluated by the eMINTS National Center. To date, 90 percent of teachers have had their lessons approved, and the remaining participants are on track for full approval by October 30, 2010.

5. Participating teachers will show a 50 percent increase in their technology literacy and integration skills as measured by a district pre- and post-survey.

Findings: Objective was met. Teacher technology literacy increased by 86 percent from 2007-08 to 2009-10 in terms of the numbers of participants scoring at the Advanced level on the Teacher Technology Survey. In addition, it was noted that the overall percent of Advanced teachers at the participating school (53 percent) was also twice as high as the percent of Advanced teachers in the other three buildings combined (28 percent).

Table 19 notes the percentages of teachers who considered themselves as Beginner, Intermediate, and Advanced users of technology for the school year prior to eMINTS and

for each year of the eMINTS implementation. Only 28 percent of teachers rated themselves as Advanced prior to eMINTS implementation, compared to 47 percent at the end of year one, and 52 percent at the end of the eMINTS implementation, resulting in a pre-post project increase of 86 percent.

Table 19
Teacher Technology Skills Survey Results: Comparison of Technology Usage Before, During, and After eMINTS Implementation

School Year	Technology Usage Level		
	Beginner	Intermediate	Advanced
2007-08	10	62	28
2008-09	5	48	47
2009-10	4	44	52

In addition, the district's technology department conducted a District Teacher Technology Skills assessment to evaluate project impact. As depicted in Table 20, there was a 12% increase in technology presentation and a 15% increase in technology integration, before and after eMINTS implementation.

Table 20
Teacher Technology Skills Assessment Results: Comparison of Technology Skills Before, During, and After eMINTS Implementation

School Year	Teacher Technology Skill	
	Presentation	Integration
2007-08	87%	84%
2008-09	96%	96%
2009-10	97%	97%

Further, there is a marked difference in advanced technology usage ratings when comparing the participating building (52 percent) and other buildings in the district (elementary at 15 percent, middle school at 29 percent, and high school at 41percent).

ADDITIONAL OBJECTIVE

5. **Student attendance in eMINTS classrooms, 2008-09, will show an improvement over the rates noted the past two years.**

Results: Attendance data was compared with the previous two years as follows: 95.14 percent for 2006-07, 95.35 percent for 2007-08, and 95.73 percent for 2008-09. This was a big help to the district totals which have risen from 94.2 percent in 2006-07 to 94.4 in 2007-08 and 94.6 percent in 2008-09.

Sullivan – ELEMENTARY-MIDDLE IMPLEMENTATION: 432 STUDENTS, GRADES 4-6, 10 TEACHERS (5 COMPREHENSIVE, 5 FOR ALL CLASSROOMS), FOCUSING ON ALL CONTENT AREAS

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **Sixth-grade students will be reading at grade level as measured by the Scholastic Reading Inventory (SRI) Lexile Report.**

Results: Objective was met each year of the grant, In year one, students in the sixth-grade eMINTS Comprehensive classrooms were administered the SRI in August of 2008 and May 2009, with a score of 800 or above needed to be reading on level. Of the 164 students given the pre-test, 61 students scored below grade level. In May, only 20 of the 164 students scored below grade level, a significant improvement from the pre-test.

In year two, 134 students took the SRI in August 2009 and May 2010. On the pre-test, 40 students scored below grade level, compared to 20 students on the post test.

2. Students in the 6th-grade Comprehensive eMINTS classrooms will increase technology literacy measured by external evaluator classroom observations, structured student discussion groups, and pre-post online technology survey.

Results: Objective was met each year of the project. According to initial OSEDA classroom observations, teachers made adequate use of available equipment for a first-year implementation. A total of 142 students completed the Student Technology Assessment. Overall, students showed a statistically significant increase of their skills on the basic computer use, file management, word processing, graphics, spreadsheet, Internet and presentation scales. The classroom observations indicated adequate use of available equipment for a first-year implementation.

For year two, the Wilcoxon signed-rank (or matched-pairs) test was used to determine statistical significance between fall and spring scores. Table 21 below shows the scales that were found to be statistically significant in 2009-10. [See Year 1 Report for more information on the questions comprising the scales.] As indicated in the table, participating sixth-grade students made significant gains on a good number of items and on seven of the ten section scales.

Table 21
Student Technology Survey –
Comparison of Sixth-Grade Students' Fall 2009 and Spring 2010 Responses

Student Technology Survey Scale	Fall Mean	Spring Mean	Significance Level
Responsible use	4.58	4.82	.000
File management	4.54	4.72	.019
Word processing	4.18	4.46	.007
Graphics	1.21	3.32	.004
Spreadsheet	3.64	4.06	.002
Internet	4.31	4.75	.000
Presentation	4.50	4.75	.000

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. Teachers will facilitate an inquiry-based learning environment as measured by external evaluator classroom observations and structured teacher discussion groups, using the Hallmarks of an Effective eMINTS Classroom.

Results: Objective was met each year of the grant. In year one, the majority of lessons monitored during the baseline observations were "teacher-centered" when categorized by the eMINTS typology. Of the six eMINTS lessons observed, five were primarily "teacher-centered" and one was categorized as "hybrid." Teachers were observed by the principal and assistant principal using the Hallmark of Effective Teachers model. For the most part, teachers moved from emerging to experimental to transitional, with a few teachers experiencing proficient and advanced at some point in their lessons. Teachers developed rubrics so students can self-monitor and self-reflect on assignments; teachers met regularly during their weekly Professional Learning Communities teams and discussing assessments, sharing ideas as simple as classroom management tips to more complex topics as web page design and WebQuests.

In year two, classrooms moved from traditional teacher-centered teaching to more inquiry based learning. Instructional delivery methods observed included direct instruction (explicit teaching, didactic questioning, and drill and practice) as well as indirect instruction (reading for meaning, writing to inform, and concept mapping) and using project-based learning as an instructional strategy. During teacher focus group interviews, teachers cited

the production of rubrics tied to the curriculum, online quizzes, online grading of papers using the drop box, and evaluating writing assignments online as common assessments as examples of how technology has helped with student assessment and evaluation of learning. One teacher said that she had an eye-opening experience during a visit to another district's eMINTS classroom this year when she saw how much students were able to do on their own. Teachers recognize that there is more work to be done to move to an inquiry based learning environment.

4. Teachers will increase technology integration and literacy as measured by pre-post survey, classrooms observations, and structured teacher discussion group.

Results: Teachers used the SmartBoard in each of the classrooms observed, and teachers appeared be comfortable and facile with the whiteboard and other equipment. However, teachers used the SmartBoard primarily as a display device which is typical during a first-year implementation

Results: Year two observations conducted by the external evaluator noted teachers using some form of technology during the observation period. All were using the SMART board to present information, view movies or web sites, and review student materials. The most common software applications observed were word processing, presentation software, and Internet browser. All teachers appeared skilled at the chosen application.

Westran – MIDDLE SCHOOL IMPLEMENTATION: 145 STUDENTS, GRADES 6-8, 5 TEACHERS (2 COMPREHENSIVE, 3 FOR ALL CLASSROOMS), FOCUSING ON COMMUNICATION ARTS AND MATH

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. Student academic achievement will improve in communication arts and math, with students' reading Lexile scores (using the Scholastic Reading Inventory) increasing by 10 percent each year of the grant, and the district meeting AYP.

Results: The objective was partially met during year one of the grant. As indicated in Table 22, the percentage of students scoring Proficient or Advanced on the SRI increased for each subgroup except for 8th-grade females. However, the overall percentage of students scoring at Advanced increased at all grade levels, for both males and females, with an overall average exceeding 10 percent.

**Table 22
Students Scoring at Proficient or Advanced on the Scholastic Reading inventory
Fall 2008 and spring 2009**

Students		Percent Proficient/Advanced		
Grade	Gender	Fall	Spring	Change
6	Females	63%	68%	+5%
	Males	58%	63%	+5%
7	Females	75%	79%	+4%
	Males	52%	75%	+22%
8	Females	57%	57%	NA
	Males	63%	68%	5%

The district reported meeting the objective by the end of the second year. Student academic achievement improved in communication arts and mathematics over the 2008-2009 and 2009-2010 school years, with the district meeting AYP as a result of the increasing MAP scores.

2. Technology literacy will increase as students create computer-generated portfolios demonstrating adequate ability in the use of technology, as assessed by a district-

developed rubric (examining student use of multimedia, collection of artifacts, and self-reflection of portfolio).

Results: Objective was met each year of the grant. All students, grades 6-8, generated portfolios that demonstrated adequate ability in the use of technology. Students were scored at moderately high to high on most of the technology survey items and scales.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **Teachers will attend at least 80 percent of the professional development sessions, resulting in increased use of effective instructional strategies and integration of technology in instruction.**

Results: This objective was met as evidenced by classroom observations, professional development session attendance sheets, and school-developed “teacher integration of technology criteria.” According to classroom observations conducted by OSEDA, there has been a shift towards more student-centered and inquiry-based instruction since the initial observations in 2008. In each of the classrooms observed during Year 2 technology clearly enhanced lesson content, with some lessons reaching Grappling’s Level 3. Students conducted research and prepared presentations (Powerpoints and/or iMovies) to visually depict the results of the research. Technology appears to be well integrated and well accepted by teachers and students.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade Co. R-I (Hermann) HIGH SCHOOL IMPLEMENTATION. 1 SCHOOL, 417 STUDENTS, GRADES 9-12, 12 TEACHERS, (7 COMPREHENSIVE AND 5 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **By the end of Year 1, 90% of 11th grade students will score at the “proficient” level on a district-developed common communication arts assessment based on grade level expectations (GLEs).**

Results: Objective was not met, with 80 percent instead of 90 percent of students scoring proficient. The districts decided to use the writing prompt for the 10th grade communication arts end-of-course (EOC) exam as it would be more reliable and valid than a district created assessment from a MAP released item. The scoring of the item chosen was the same as the scoring that would have been done with an 11th grade assessment. Communication arts teachers scored these assessments. [Riverside Publishing will also be scoring these assessments that will give us the opportunity to compare the two scores.] Eighty percent of the 10th grade students met this objective. While this is not as high as we had hoped, these results are still considered positive. Of the students who did not score at the level of “proficient” or higher, all of them scored at the “basic” level – not one student scored at the “below basic” level.

2. **By the end of Year 1, 80% of participating students will show a 50% improvement on technology literacy scales in the areas of basic computer use, electronic communications, productivity tools, information gathering and presentation as measured by a survey based on grade-appropriate student technology standards/ indicators of the National Educational Technology Standards for Students.**

Results: Objective was met. A total of 223 high school students completed OSEDA’s online Student Technology Skills survey: 60 freshman, 65 sophomores, and 38 seniors. As shown in Table 23, students had significant increases in file management, graphics, Internet, and presentation. Overall, freshman had the most instances of significant gains, followed by juniors, seniors, and sophomores. Areas that still are weak points for our students are spreadsheets — since many of the teachers have not received their training

on this yet, they have been unable to pass those techniques onto the students and desktop publishing.

Table 23
Student Technology Survey –
Comparison of Students' Fall 2009 and Spring 2010 Responses

Student Technology Survey Scale		Fall Mean	Spring Mean	Significance Level
File management	9	4.62	4.86	.003
	9	4.47	4.70	.002
Graphics	11	4.60	4.82	.002
	12	4.59	4.86	.039
Internet	9	4.25	4.55	.001
	11	4.27	4.55	.001
Presentation	9	4.41	4.76	.001

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **By the end of Year 1, participating teachers will achieve a “transition” or higher rating on 80% of the items on a walk-through completed by the building principal (a participant of the eMINTS4Administrators program) using the Year 1, second semester “looks for” based on the Hallmarks of an Effective eMINTS Classroom.**

Results: A Walk-through of each participating teacher was completed by the building principal. He used the Year 1, second semester “looks for” based on the Hallmarks of an Effective eMINTS Classroom. 100% of the participating teachers achieved a “transition” or higher on 96% of the items on the walk-through. Additionally, 91% of the participating teachers achieved a “transition” or higher on 100% of the items on the walk-through.

4. **By the end of Year 1, participating teachers will increase the amount of time that students are actively engaged in higher-order thinking as measured by teacher-leaders using the Instructional Practices Inventory (IPI) Data Recording Form.**

Results: Objective was met IPI data was gathered in September of Year 1 by teacher-leaders using the Instructional Practices Inventory Data Recording Form. Students were actively engaged in higher-order thinking 17.48% of the time. Data was again gathered by teacher-leaders in April of year 1. At this time students were engaged in higher-order thinking 23.91% of the time, representing an increase of 6.43%.

5. **By the end of Year 1, participating teachers will increase their knowledge of technology to Level 3 or above in seven out of ten areas as evaluated by the Gasconade County R-1 Teacher Use of Technology Self-Evaluation.**

Results: The objective was met as Year 1 eMINTS and eMINTS4All teachers found their skills increased as a result of eMINTS training. Eight of the ten items that are included on the Teacher Use of Technology Rubric are items that are covered quite extensively during the eMINTS Year 1 PD: Responsible Use, Basic Computer Use, Word Processing, PowerPoint, File Management, Internet, Security, and Technology Integration. Eleven out of 12 teachers met this objective. The teacher who did not meet this objective scored a 3 or above on 6 of the 10 objectives. This teacher is a special education teacher who is attending eMINTS4All. Since the students come to her for resource help, she does not have the same opportunities to implement the program that the other teachers have.

Jefferson City - ELEMENTARY IMPLEMENTATION. 1 SCHOOL, 307 STUDENTS, GRADES K-5, 25 TEACHERS, (7 COMPREHENSIVE AND 17 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **By the end of year, 80% of targeted students will score at the proficient level on district supported common communications arts assessment based on grade-level expectations (GLEs). By the end of year one, there will be a 20% increase in the percent of students scoring proficient on the mathematics assessment (Investigations) from pre- to post-test.**

Results: Objective was met with statistical significance. Participating teachers administered the pretest during the first two weeks of school and a similar test in the last month of school. Skills tested will focus on non-fiction reading, patterns and relationships and applying skills to new settings and situations. On average, we noticed scores gained by 162 points from the pre to the post-test. This difference is statistically significant at the .05 level ($t= 13.27$); that is, there is a less than 5% chance that this change is due to chance, and is likely due to instruction. There was a 30% increase in reading tests from pre- to post-test.

For math scores, we noticed that math scores gain 40 points from the pre and post-test. On average, students scored a 36% on the pretest and a 78% on the posttest. This difference is statistically significant at the .05 level ($t=32.1836$). There was a 110% increase in math tests from pre- to post-test.

2. **By the end of year, targeted students will show an increase in technology literacy based on responses on the student technology use survey.**

Results: Objective was met. The pre-/post-test survey instrument was aligned to National Educational Technology Standards to measure students' technology skills. Based on paired t-tests, students had statistically significant gains in their technology literacy in everything besides Excel and iMovie. [See Year 1 Report for the complete survey and results.]

Table 24
T-Test on Student Technology Learning

Variable	t	Pr(T > t)	Effect*
Basic Computer	-4.295	0	Statistically Significant
File Management	-3.9737	0.0001	Statistically Significant
Graphics	-5.3876	0	Statistically Significant
Research Information Search	-6.6589	0	Statistically Significant
Technology Presentation	-6.196	0	Statistically Significant
Internet Safety	-2.269	0.0248	Statistically Significant
Word	-6.1905	0	Statistically Significant
Powerpoint	-9.6629	0	Statistically Significant
Excel	1.738	0.0845	Not Statistically Significant
iPhoto	-5.6192	0	Statistically Significant
iMovie	0.6607	0.5099	Not Statistically Significant
Garageband	-2.2462	0.0263	Statistically Significant
Smart Notebook	-5.09	0	Statistically Significant

*All effects were positive.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **By the end of year, participating teachers will submit an essay that reflects on their progress toward increasing student engagement and on efforts toward integrating**

technology instruction. The essays will address targeted criteria consistent with the NETS and Performance Indicators for Teachers.

Results: Objective was met. In the spring of 2010, 26 East Elementary comprehensive eMINTS and eMINTS4ALL instructional staff submitted an essay reflecting on individual teacher progress towards implementing eMINTS methodology during year 1 of the grant project. The essays were rated using two attributes from Hallmarks of an Effective eMINTS Classroom: Responsibility for Learning and Use of Technology for Learning. The scoring rubric applies the following numerical values: (1) Emerging; (2) Experimental; (3) Transitional; (4) Proficient; (5) Advanced (see Appendix A).

- The aggregate score for the Responsibility for Learning was a 2.7.
- 65% of staff scored at the transitional level or above on the Responsibility Hallmark.
- The aggregate score for Use of Technology for Learning was a 3.2.
- 77% scored at a transitional level or above on Use of Technology for Learning.

The rating for the Hallmark of Responsibility for Learning may be underrated as not all teachers gave specific information regarding their progress on this hallmark.

The summative essays reflect substantial growth on the part of individual eMINTS participants and increased collaboration on the part of the grant project team members. The majority of essays discussed the use of SMART Notebook software and Internet websites in their classrooms. Other technology tools utilized were class web pages, Powerpoint, Kidspiration & Inspiration, Photobooth and iMovie. Teachers were excited to see the level of student engagement and independence increase. Several regular education teachers discussed implementing inquiry-based, collaborative and interdisciplinary learning. Instructional staff rated at the emerging and experimental levels noted great progress made from the beginning of the school year in terms of acquiring technology skills and outlined plans for furthering eMINTS implementation in their classroom.

4. By the end of year, participating teachers will show a 50% increase in technology literacy and integration skills as measured by the pre- and post- survey.

Results: Objective was met with statistical significance. In October and May, eMINTS administered the Hallmarks of Effective eMINTS Classrooms survey to measure teachers' technology literacy and integration skills. Although the evaluation plan was to analyze the pre- and post- survey results to determine whether teachers' results improved on average by at least 50%, the t-tests provided more rigorous analyses to determine if the improvement was statistically significant; that is, if those results were due to chance or to a particular intervention such as eMINTS professional development for teachers. For every Hallmark, change was statistically significant. Professional development is the logical conclusion for the change, although other factors such as teacher experience were not included. Teachers wrote essays to the NETS standards, but for the purposes of this evaluation, formative input about implementation was not gathered.

ADDITIONAL OBJECTIVE

5. By the end of the 2009-10 school year, 60% of eligible parents will demonstrate involvement in their child's communication arts and mathematics education by participating in at least two of four parent workshops.

Results: Objective was met. East School hosted four parent events. The first event was held in conjunction with fall parent-teacher conferences. The event included information and communications with parents about the eMINTS program. The event was well received with a 94% attendance rate. The second event was part of the spring parent-teacher conferences. Teachers and students had the opportunity to showcase how

technology was incorporated in the classroom on a daily basis. There was an attendance rate of 88% for this event. The third event was a family literacy night. The event was held in the library and included information on how eMINTS was supporting literacy efforts at the school. Approximately 28% of parents attended the workshop. The final event was an eMINTS/Technology sharing session. Students and teachers had the opportunity to demonstrate technology proficiency and give parents opportunity to experiment with the technology. The event had a 22% attendance rate. While attendance rates fluctuated depending on the event, the average participation rate, across events, was 57%.

ARRA GRANTS

Cameron R-I - ELEMENTARY AND MIDDLE SCHOOL IMPLEMENTATION. 2 SCHOOL S, 625 STUDENTS, GRADES 4-8, 18 TEACHERS, (9 COMPREHENSIVE AND 9 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. By the end of Year 1, 70% of targeted students will score at the “proficient” level on a district-developed common Communication Arts assessment based on Grade Level Expectations (GLE).** Participating teachers will administer the Communication Arts GLE assessment at the end of the school year. Proficient level will be established as scoring at 80% or higher on the district developed common assessment for Communication Arts GLE. Skills tested will focus on non-fiction reading, identifying authors' purpose and developing vocabulary. Scores will be compiled, analyzed and reported by the project contact in the Year 1 PEN.

Results: Objective was not met. The district common assessment was revised into separate assessments for each grade level in order to align with grade level concentrations. Grade 4 concentrated on reading comprehension while Grade 5 worked on reading fluency through their new AIMS web implementation. The fourth grade developed their assessment with map released items. The exam was given by the teachers in the last month of school. Of the students completing the assessment only 41% scored at the 80% or above pre-set proficiency level, while 68% scored 70% or higher.

The fifth grade used AIMS web to assess their students. Students took an assessment early in the school year allowing the teachers and AIMS web trainers to set an aggressive fluency target of 148 for use on the final assessment. In the last month of school teachers throughout the grade level re-assessed their students. Of the 143 students completing the final assessment 72 (50.35%) reached the previously set fluency target. Students obtaining fluency rates greater than average numbered 107 (74.82%).

- 2. By the end of Year 1, 75% of participating students will show a 50% improvement on technology literacy scales in the areas of basic computer use, electronic communications, productivity tools, information gathering and presentation as measured by a survey based on grade-appropriate student technology standards/ indicators of the National Educational Technology Standards for Students.**

Results: Objective was met in grade 5. A total of 271 students completed OSEDA's online Student Technology Skills survey: 114 third graders and 125 fifth graders. As shown in Table 25, fifth-grade students had significant increases in file management, word processing, graphics, spreadsheets, Internet, and presentation. Third-grade students' responses showed little increase and in some case showed decreases.

Table 25
Student Technology Survey –
Comparison of Students' Fall 2009 and Spring 2010 Responses

Student Technology Survey Scale		Fall Mean	Spring Mean	Significance Level
File management	5	4.23	4.63	.000
Word Processor	5	3.75	4.23	.000
Graphics	5	3.54	4.08	.000
Spreadsheet	5	3.01	3.39	.007
Internet	5	3.52	3.80	.028
Presentation	5	2.83	3.40	.000

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **Participating teachers will improve technology integration and use skills as measured by classroom observations and response to the Teacher Instructional Practice Survey.**

Results: Objective is partially met. Two elementary and seven middle school classrooms were observed in October 2009 to captures baseline. Technology was not integrated into teaching strategies in any of the nine eMINTS classrooms observed. Three teachers did not use any technology at all. Five teachers used either an overhead projector or SmartBoard to briefly list items needed for class or to display class schedules none of which is enough to constitute technology integration.

Teachers completed the Teacher Instructional Practice Survey in fall 2009 and spring 2010. The teacher instructional strategies and assessment survey asked teachers to report their perception of their practices and competencies in four areas: Characteristics of Instruction, Technology Integration, Technology Literacy Frequency, and Technology Literacy Proficiency. A total of 72 survey questions made up each of the four competency areas. In general, teachers' responses increased between fall and spring.

4. **By the end of Year 1, Comprehensive eMINTS teachers will develop and submit one WebQuest focusing on Communication Arts for their grade level that successfully meets all criteria established by, and scored by, the eMINTS National Center.**

Results: Objective is in progress. The district had to adjust the training schedule and extend the due date for WebQuests (to August 31) as result of two key players in our grant implementation being out of work for an extended period of time due to health reasons.

Cassville R-IV - INTERMEDIATE ELEMENTARY AND MIDDLE SCHOOL IMPLEMENTATION. 2 SCHOOLS, 528 STUDENTS, GRADES 3-6, 22 TEACHERS, (12 COMPREHENSIVE AND 10 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **By the end of Year 1, 75% of targeted students will score at the “proficient “level on a district-developed common Communication Arts and Mathematics assessment and Acuity testing based on grade level expectations (GLEs).** Teachers will administer a test in the fall and a similar test in the spring. Skills tested will focus on non-fiction reading, patterns and relationships and applying skills to new settings and situations.

Results: Objective was not met, as the aggregate results by grade level are regularly trending in the wrong direction. The district regularly uses predictive tests from CTB/McGraw Hill for formative assessment. These Acuity tests are meant for diagnosis and prediction of performance on the Missouri Assessment Program. As a result, the district will need to review its 2009-10 MAP scores to determine if Acuity is accurately predicting student achievement and, if not, consider reporting 09-10 MAP proficiency

percentages alongside Acuity data. [See Year 1 Final Report for information with Basic and Below Basic Levels, Appendix B.]

- 2. By the end of Year 1, targeted students will score at least 75% on a district-developed, grade-appropriate student technology standards/indicators assessment that is based on the National Educational Technology Standards for Students.**

Results: Objective is partially met. The district administered a technology skill assessment to 453 students in April 2010. Students were over 75% proficient in knowing how to use graphic organizers, spell-checks, book/reboot, URL's, graphs, spreadsheets, research plans, force quit, printing, evaluations, and formatting such as centering. Students need help on basic skills such as document extensions (.doc), inserting/cropping/rotating pictures, and on searches. Students fared well in knowing how to be good digital citizens, including knowing the appropriate information to share and who to ask for permission in particular situations.

A concern is that 97.4% of students believe "All information found on wikis, including Wikipedia, is true and accurate." This is down 1.3% from the fall, when 98.7% of students believed the same. If teachers regularly use wikis they trust, instruction on how and what to trust may be useful. Finally, on learning uses of technology, several of the questions appeared to have several correct answers, or the question was worded so particularly that only one answer could be technically correct, while several of the concepts were arguably accurate.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

- 3. By the end of Year 1, participating teachers will submit two model lesson plans, one in Communication Arts and one in Mathematics for their grade level and an additional content area lesson plan in science, social studies or information literacy, that successfully meet all criteria established and scored by the eMINTS National Center.**

Results: Objective is met. Eleven teachers submitted writing prompts that included reflection on three lesson plans, and goals for the next year. Several themes emerged: Teachers regularly used technology in instruction, and six of the eleven teachers commented on the length of time necessary to facilitate cooperative and inquiry-based learning using various types of technology. The reflections indicated that all teachers use the technology for higher-order instruction; that is, rather than teachers simply using technology to automate student roles (Grapplings Level 1: Literacy) for rote work (Depth of Knowledge Level 1: Recall).

Although teachers did use technology for recall or skill/concepts, as much or more often, students worked cooperatively and on inquiry-based projects (Grapplings 2 & 3Adapting or Transforming; DOK 2 & 3: Skill/concept) & Strategic Thinking). Although not explicitly expressed, the length of time necessary for such cooperative and inquiry-based learning was likely why the majority of teacher mentioned time as part of the lesson plan descriptions. This may indicate that teachers are adjusting their expectations for how to deliver instruction.

Individual teachers used the technology in a variety of ways and across all core subject areas, using a variety of tools (Microsoft Word and PowerPoint, movies, web quests, webpage creation). Instructional methods mentioned included activities such as compare/contract, quick assessment, graphic organizers, graphing activities, gallery walks, and arrangements such as cooperating learning, student-driven independent work, and inquiry-based learning. One teacher used technology for character education. Future goals expressed by teachers included spending time at the beginning of school years to teach students how to use technology, such as keyboarding, to prepare the class for

instruction that requires group, cooperative and inquiry-based work. For example, four teachers mentioned keyboarding and the disparity of student comfort/tech literacy within the class. Teachers are clearly aware that this disparity affects cooperative, inquiry-based learning throughout the year.

4. By the end of Year 1, participating teachers will show a 50% increase in the literacy and integration skills as measured by the pre- and post-survey.

Results: Objective is in progress. The Hallmarks of Effective eMINTS Classrooms survey was administered to measure teachers' technology literacy and integration skills in September and May. Of the 30 skills assessed, 20 showed a 50% improvement. Of those not improved, many teachers began at high levels of proficiency and therefore would not have been able to increase 50% (for example, most teachers could send e-mail with and without attachments before the project started). Appendix A also provides a breakdown of skills

ADDITIONAL OBJECTIVES

5. By the end of the school year, 80% of eligible parents will demonstrate involvement in their child's mathematics and communication arts education by participating in at least three out of five parent activity night workshops.

Results: This objective was difficult to answer as written since aggregate rather than individual family data were reported. However, two of the seven parent nights had an average of over 80% participation. The parent teacher conferences had an average of 96% and 74% participation. Throughout the year, individual teachers had an average of 67% participation in parent activities, with a low average of 41% and a high of 82%.

Lebanon R-III - ELEMENTARY SCHOOL IMPLEMENTATION. 2 SCHOOLS, 774 STUDENTS, GRADES 4-6, 16 TEACHERS, (4 COMPREHENSIVE AND 12 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. At the end of Year 1, 80% of eMINTS students in grade 6 will score a minimum of 70% on post assessment, or demonstrate a minimum of 20% improvement, as measured by district-developed common assessments based on Grade Level Expectations (GLEs) in math, communication arts, and science.

Results: Objective was partially met. For students enrolled in eMINTS communication arts classes, 65% met the academic achievement objective compared to 80% of students in non-eMINTS communication arts classes. There are several factors that may have contributed to the not attaining the 80% target in eMINTS classes for communication arts:

- The average pre-test scores in communication arts were higher than those in math or science making it more difficult to score 20% improvement on post scores
- Pre/post assessment results include 45 students from two communication arts eMINTS classes as compared to 245 students from 11 communication non-eMINTS classes.
- The two communication arts eMINTS classes are inclusion classes. All students, including those with individual education plans in reading or written language, participated in the pre and post assessments. Students in other classrooms did not participate in assessments of those subjects included in their individual education plans.
- In addition to eMINTS training, communication arts teacher completed year 2 training of Missouri Reading Initiative which resulted in significant time out of class for professional development

For students enrolled in math eMINTS classes, 73% met the academic achievement objective compared to 63% percent of students in non-eMINTS math classes.

- The target of 80% was not met by students in eMINTS or non-eMINTS classes suggesting the target was too high.

For students enrolled in science eMINTS classes, 92% met the academic achievement objective compared to 74% percent of students in non-eMINTS science classes.

- eMINTS and non-eMINTS classes implement FOSS science curriculum. The performance comparison between eMINTS and non-eMINTS classes seem to reflect that embedding technology into the inquiry based FOSS curriculum is a bonus to the instructional process.

2. **At the end of Year 1, 80% of students in Comprehensive eMINTS classrooms will show 30% improvement on at least 70% of the student technology literacy scales in the following areas: basic computer use, electronic communications, productivity tools, information gathering and presentation.**

Results: Objective was partially met. Seventy percent of Students scored 80% of the maximum score (i.e., 3.2) on 5 of 9 scales, as shown in the table below. The scales on the Student Technology Survey have a maximum score of 4.0.

Table 26
Student Technology Survey – Students Scoring at/above 80 Percent

Student Technology Survey Scale	Students Scoring 80% or Higher	
	N	Percent
Responsible use scale	318	**94.3396
Basic Computer scale	315	**86.3492
File Management scale	316	54.4304
Email scale	306	32.6797
Word Processing scale	313	**79.2332
Graphics scale	306	61.1111
Spreadsheet scale	318	.6289
Internet scale	317	**73.5016
Presentation scale	312	**86.2179

** 70% of Students scored 80% of the maximum score on these scales

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **At the end of Year 1, 75% of Comprehensive eMINTS teachers will facilitate student-engaged learning, achieving a minimum of 65% of Instructional Practice Inventory (IPI) codes at a 4-5-6.** IPI codes of 4-5-6 indicate student engaged instruction including students attentive to teacher-led learning; students engaged in active conversations that construct knowledge; higher order learning; authentic project work; cooperative learning; problems based learning. High performance schools achieve 75% of IPI codes at 4-5-6. District IPI trained coders including teachers and administrators will conduct the IPI coding.

Results: Objective was met. In January and May, 100% of eMINTS teachers exceeded the minimum of 65% IPI codes at levels 4-5-6. The largest shift in IPI codes was a comparison of January 2010 and May 2010 Level 6 measuring Student Active Engaged Learning. In May 72% of Comprehensive eMINTS teachers were coded at Level 6 compared to 33% in January.

Table 27
Teachers Reaching Instructional Practice Inventory Codes 4-5-6

IPI Code Level	Description	Comp. eMINTS January 2010	Comp. eMINTS May 2010
Level 6	Student Active Engaged Learning	33.33%	72.22%
Level 5	Student Learning Conversations	22.22%	5.56%
Level 4	Teacher-Led Instruction	40.00%	11.11%
Total Percentage Coding Levels 4-5-6		95.55%	88.89%
Level 3	Student work with Teacher engaged	4.44%	0%
Level 2	Complete Disengagement	0%	5.56%
Level 1	Student Work with Teacher not Engaged	0%	5.56%
Total Percentage Coding Levels 1-2-3		4.44%	11.12%

- 4. Participating teachers will facilitate inquiry-based learning as measured by classroom observations using rubrics and checklists.** OSEDA will conduct the classroom observations and provide a narrative description for inclusion in the year 1 Program Evaluation Narrative.

Results: Objective is in progress based on OSEDA classroom observation baseline measurements. Observations found instruction was “teacher-centered” with teachers controlling the pace and content of class work, classrooms relied primarily on direct instruction, three classrooms incorporated a few elements of indirect learning – including reading for meaning and reflective discussion, lessons were traditional instruction (none incorporated elements of inquiry based learning), and students had little opportunity for inquiry, since answers usually have a limited acceptable response. However, instruction is consistent with year 1 pre-implementation observations in other districts

- 5. Participating teachers will show an increase on 50% of the scales on OSEDA’s online survey designed to measure technology literacy and integration skills.**

Results: Objective was met as the comparison of the mean scores from teachers’ responses in surveys taken in fall 2009 and spring 2010 found a general trend that teachers’ responses increased in categories of Characteristics of Instruction, Technology Integration, Technology Literacy Frequency, and Technology Literacy Proficiency.

- 6. Classroom observations will be conducted using rubrics and checklists designed to ascertain teacher technology literacy and instructional practices. These observations conducted in the fall of year 1 will serve as the baseline measurement for the project. OSEDA will conduct the classroom observations and provide a narrative description for inclusion in the year 1 Program Evaluation Narrative.**

Results: Objective is partially met. Findings from OSEDA’s fall 2009 classroom observations of technology literacy and integration skills including the following:

- Limited teacher use of technology was observed
- Teachers used technology to display information similar to using a chalkboard
- Teachers were proficient in using technology for that application

North Kansas City 74 - ELEMENTARY IMPLEMENTATION. 4 SCHOOLS, 960 STUDENTS, GRADES 3-5, 30 TEACHERS, (26 COMPREHENSIVE AND 4 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. Participating students in grades 4 and 5 in the four targeted schools will demonstrate a higher increase in their mastery of grade-level essential mastery objectives in communication arts, math, and science, compared to students in non-eMINTS with similar populations, as measured by district-developed annual**

pre/post Essential Grade Level Expectations Mastery Tests. Note that the district utilizes a mastery model for reporting student behavior as well as academic achievement.

Results: Objective was partially met. Teachers in eMINTS classrooms assessed each essential mastery objective regularly to determine student progress in identified learning behaviors. Each school and grade achieved at least one 70% goal, and several categories were close to the threshold. In some cases, project schools had higher mastery rates than non-project schools on particular skills. Table 28 lists the skills where students in eMINTS schools had higher mastery rates.

Table 28
Skills Where Students in eMINTS Schools had Higher Mastery Rates

Academic Skill by Subject Area	Grade 4	Grade 5
COMMUNICATION ARTS		
Formulates/investigates key words to conduct research	✓	
Develops research questions (focus/purpose for project)		✓
Gives credit for others' ideas by listing sources used		✓
Locates/uses various resources to acquire information		✓
MATHEMATICS		
Collects data using observations, surveys, and experiments	✓	
Creates tables/graphs (line plots) to represent categorical data	✓	
Proposes / justifies conclusions based on a given set of data	✓	
Compare related data sets		✓
Determines the likelihood of an event		✓
Evaluates data-collection methods		✓

2. **By the end of Year 1, 90% of students in eMINTS classrooms will demonstrate “mastery” on tenets student technology standards reported on the District mastery grade level report cards as measured by teacher-developed observation protocols, assessments and scoring guides.** Year 1 Evaluation Plan 4 eMINTS teachers administered assessments, completed observational protocols, collected and scored artifacts from student portfolios using grade level scoring guides that targeted the grade level NETS technology standards included on District report cards. Appropriate assessments were modeled after the National Educational Technology Standards for Students Connecting Curriculum and Technology resource guide.

Results: Objective is not met. While students are progressing toward mastery, no technology tenet reached 90 percent mastery.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **By the end of Year 1, eMINTS teachers will achieve a “transition” or higher rating on 80% of the items on a walk-through completed by the Certified eMINTS Instructional Specialist and the building principal going through the eMINTS4Admin program.**

Results: Objective is in progress. The walk-through was completed using the second semester “look fors” based on the Hallmarks of an Effective eMINTS Classroom. The district gathered “look-fors” on transition level and higher items and sent them to the external evaluator to create a summary report detailing the percentage of teachers at each rating level. While teachers showed some success in some of the look-fors, the results also clearly illustrate areas of need for coaching.

4. **eMINTS teachers will self-evaluate their technology literacy and integration at high levels as demonstrated by a mean rating of 3.5 or greater on each objective within the Knowledge, Confidence and Experience technology surveys.**

Results: Objective was not met. Teachers completed a self-evaluation survey addressing 33 areas related to technology literacy and integration. For year one, the 3.5 mean was not achieved in any of the three areas or the particular behaviors assessed. However, results indicated a great deal of progress. Note that 3.5 is a very high goal if for teachers who began the project some technology confidence, knowledge or experience.

Sedalia 200 - ELEMENTARY SCHOOL IMPLEMENTATION. 1 SCHOOL, 350 STUDENTS, GRADES 2-4, 17 TEACHERS, (6 COMPREHENSIVE AND 16 FOR ALL CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. By the end of year 1, 70% of targeted students will score at the “proficient level” on a communication arts and math district-wide common assessment based on Grade Level Expectations (GLEs).**

Results: Objective was not met. The district uses Acuity as a common assessment tool to evaluate student performance in communication arts and math. This assessment is given to all third and fourth grade students three times per year. Table 29 details the results for the first (fall) and last (spring) assessment. Although short of having 70% of students score at the proficient level, it should be noted there were improvements made in third-grade math and communication arts, and fourth-grade math. Other factors which may have caused lower than expected assessment scores include early spring testing (February) and late installation of technology (due to equipment delivery issues). Greater gains in student achievement are anticipate during year two by continuing to use the resources provided by our eMINTS implementation (training and technology) to drive instruction and ultimately improve student academic achievement

**Table 29
Students Scoring Proficient in Fall 2009 and Spring 2010**

Subject	Grade Level	Percent Proficient		Change
		Fall	Spring	
Communications Arts	3	44%	56%	+12%
	4	56%	55%	-1%
Math	3	53%	59%	+6%
	4	59%	61%	+2%

- 2. By the end of Year 1, 80% of students will show 50% improvement on the scales designed to ascertain technology literacy in the areas of basic computer use, electronic communications, productivity tools, information gathering and presentation as measured by a survey based on the grade-appropriate student technology standards/indicators of the National Educational Technology Standards for Students.**

Results: Objective is in progress. 69 third graders and 66 fourth graders completed OSEDA's online Student Technology Skills survey in fall 2009 and spring 2010. As shown in Table 30, students had significant increases in the scales related to file management, email, word processing, graphics, Internet, and presentation. In the eMINTS4All rooms, there was a positive increase in basic computer use, word processing, graphics, and presentation. Overall, the third-grade students showed more cases of improvement than the fourth-grade students.

Table 30
Student Technology Survey –
Comparison of Students' Fall 2009 and Spring 2010 Responses

Student Technology Survey Scale	Grade Level	Fall Mean	Spring Mean	Significance Level
File Management	3	3.05	4.01	.00
	4	3.40	4.31	.000
Email	3			
Word Processor	3	2.85	3.84	.000
	4	3.30	4.05	.000
Graphics	3	3.19	4.09	.000
Internet	3	2.63	3.73	.000
Presentation	3	2.58	3.90	.000
	4	3.12	4.39	.010

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **By the end of Year 1, Comprehensive eMINTS teachers will show an increase on 50% of the scales on a survey designed to measure technology literacy and integration skills.**

Results: Objective is in progress. eMINTS teachers completed the Teacher Instructional Practice Inventory (IPI) Survey in fall 2009 and spring 2010. The general trend is that teachers' responses increased.

4. **By the end of year 1, 90% of eMINTS4All teachers will achieve a “transition” level or higher rating on 80% of the items on walk-throughs completed by principal (a participant in eMINTS4Administrators training and project contact), using the Year 1, second semester “look fors” based on the Hallmarks of an Effective eMINTS Classroom.**

Results: Objective was very close to being met. Table 31 indicates the number and percent of participating teachers at each level of the Hallmarks of an Effective Classroom scoring guide, as reported by the building administrator during classroom walk-throughs. As seen in the table, 90% or more of participating teachers were at a level of transitional, proficient, or advanced on 76% of the walk-through items (16 out of the 21 items). Although this is slightly less than stated in our year one objective goal of 80%, the building administrator and participating staff unanimously agree the professional development provided by this eMINTS implementation is providing our teachers with the training and tools to use more effective instructional strategies. We expect all participants will attain proficient and advanced during the second year of our grant project.

Table 31
Hallmarks of an Effective eMINTS Classroom –
Percent Teachers rated at Transitional, Proficient or Advanced

Teacher-Facilitated Learning	Total % Transitional, Proficient, Advanced	Met / Not Met
Teacher-Facilitated Learning		
Knowledge Acquisition	94%	MET
Instruction	66%	NOT MET
Class Organization	80%	NOT MET
Project-Based Learning	94%	MET

Hallmarks of an Effective eMINTS Classroom – Percent Teachers rated at Transitional, Proficient or Advanced (continued)

Student-Centered Learning		
Student Sources of Learning	94%	MET
Types of Classroom Displays	100%	MET
Student Behavior & Time Management	80%	NOT MET
Types of Questions	100%	MET
Unique Teaching Pedagogy and Learning		
Communicate Curriculum Goals	33%	NOT MET
Teacher Questions	100%	MET
Disciplinary Nature of Units	73%	NOT MET
Student Work Arrangements	100%	MET
Community of Learners		
Students Communication Patterns	100%	MET
Student Risk-Taking	100%	MET
Sources of Information	100%	MET
Responsibility for Learning	100%	MET
Technology Richness		
Use of Technology for Learning	100%	MET
Ownership of Technology for Learning	94%	MET
Assessment of Student Performance in Context of Inquiry-Based Learning		
Types of Assessments	100%	MET
Frequency of Assessments	100%	MET
Communication of Assessment	100%	MET

Sikeston R-6 - MIDDLE SCHOOL IMPLEMENTATION. 1 SCHOOL, 520 STUDENTS, GRADES 5-6, 11 TEACHERS, (11 COMPREHENSIVE CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **By the end of year 1, 40% of targeted students will score at the “proficient” level (70% or higher) on district-created communication arts and math assessments.**

Results: Objective was met in math where 45% of students scored 70% or higher on the end of the year assessment. However, the goal was not achieved in the area of communication arts where only 23% of students scored 70% or higher. The grant team will meet in early fall 2010 to analyze the communication arts data and determine why this goal was not met, as well as brainstorm strategies to ensure the Year 2 goal will be met.

2. **Students will increase technology literacy in the following areas: basic computer use, electronic communications, productivity tools, information gathering and presentation.**

Results: Objective is partially met. Students took a technology survey administered by OSEDA with 9 scales of technology usage. While we did not have 80% increase on any of the scales, there were more cases of student increase than cases on no increase. The scales on which the majority of students did not increase were word processing, responsible use, file management, email, and basic use. It could be that our students were already fairly competent in those 5 areas at the beginning of the year. These are 5th grade students who (hopefully) have had some instruction in technology use in past classroom experiences. However, as a team we will take a look at the activities we are asking students to do in the eMINTS classrooms and make sure that we are hitting all 9 areas of technology usage for the FY11 school year

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

- 3. Comprehensive eMINTS teachers will facilitate an inquiry-based learning environment as measured by classroom observations conducted by a building administrator and external evaluator.**

Results: Objective is in progress. According to initial OSDEA observations conducted in the fall, most classrooms exhibited characteristics of a traditional classroom which is expected at the beginning of the implementation. The assistant principal observed classrooms in the spring and found all teachers met or exceeded second semester targets.

- 4. Participating teachers will show an increase on technology literacy and integration skills across the two years of eMINTS implementation.**

Results: Objective is in progress. The general trend found is that teachers' responses increased between the Fall and the Spring on the teacher Instructional Practices Survey.

St. Louis City - HIGH SCHOOL IMPLEMENTATION. 1 SCHOOL, 260 STUDENTS, GRADES 9-12, 9 TEACHERS, (9 COMPREHENSIVE CLASSROOMS)

STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. 90% of targeted students will score at the proficient level on district-developed commons assessments, based on communication arts and math grade/course-level expectations.**

Results: Objective was not met as 72 percent of students scored proficient on the GLE-based, district-developed communication arts assessment and 36 percent scored proficient on the mathematics assessment. However, students showed adequate yearly progress (AYP) on preliminary end-of-course state assessments; and selected students were enrolled in college courses over the summer and completed an Anatomy course obtaining one college credit.

- 2. The percent of students reading at/above grade level will increase by 10% as measured by the final Voyager Reading Benchmark test.**

Results: Objective was met. The percentage of students reading at or above grade level did increase by 10 percent as measured by the Freshmen Literature assessment pre and post test and the English end-of-course scores of 72%+ students deemed "proficient". Reading skills improved over the course of the year and can be identified as steadily increasing overall student performance on classroom assessment and projects. Students took a pre-reading test in September and a post- reading assessment in May, with results showing students did improve.

- 3. Targeted students will score at least 75% on grade appropriate student technology assessments based on the NETS-S.**

Results: Objective was met on the district-developed assessment, with at students scoring at least 75%. In addition, 292 students completed OSEDA's online Student Technology Skill surveys: 106 freshman, 93 sophomores, 61 juniors, and 32 seniors. Results were mixed, with students showing an increase on some scales from fall to spring. Table 32 indicates that freshman showed significant increase with regards to the basic computer, email and presentation scales; seniors showed significant increase with regards to the presentation scale/

Table 32
Student Technology Survey –
Comparison of Students' Fall 2009 and Spring 2010 Responses

Student Technology Survey Scale		Fall Mean	Spring Mean	Significance Level
Basic Computer	9	4.38	4.57	.027
Email	9	3.58	3.94	.006
Internet	9	3.68	4.15	.000
	12	3.93	4.41	.018

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

4. Participating teachers will show a 50% increase in technology literacy and integration skills as measured by a pre-post technology survey.

Results: Objective was met. Teachers gained considerable knowledge and skills using technology in the classroom to encourage students to engage in inquiry based learning. eMINTS classroom teachers collaborated with other eMINTS teachers to help one another transition from a traditional classroom.

5. Participating teachers will achieve a “transitional” or higher rating of items on a walk-through completed by a district administrator using the Year 1, second semester “look fors” on the Hallmarks of an Effective eMINTS Classroom.

Results: Objective was met as eMINTS teachers achieved a “transitional” or higher rating on 80% of the items on the administrator walk-through.

6. Participating teachers will create and implement four lesson plans during Year 1 that use constructivist teaching and include performance standards, Grappling's Technology and Learning Spectrum Level, Depth of Knowledge, and essential questions as guides on each lesson.

Results: Objective was met. Constructivist lesson plans have been created over the course of the year, with DOK moving from Level 1 one to Level 2 and 3 activities.

Wellston - ELEMENTARY IMPLEMENTATION.1 SCHOOL, 140 STUDENTS, GRADES 3-5, 6 TEACHERS, (6 COMPREHENSIVE CLASSROOMS)

SPECIAL NOTE: Under state law (Section 161.092) the State Board of Education has the authority to classify (accredit) public school districts and defines circumstances under which the State Board may intervene in the governance and operation of a local district. After intervening and giving the district a “grace period” in which to regain its accreditation, the Wellston district was closed in May 2010. While most students will attend the nearby Normandy School District, it was decided by all to not renew the Title II.D grant for 2010-2011. These and other factors affected the eMINTS project, which in effect closed down prior to the end of school. As a result, not objectives are being reported for the sake of this report.

Project Future

1. Describe the district's intent to continue the project.

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton – eMINTS continuation is written into the district's technology plan for the next three years: Grade 3 will be implemented in 2010-11, grade 5 in 2011-12, and grade 6 in 2012-13. In 2010-11 new grade 4 teacher will complete her training and the district ETS will complete her training while also training the grade 3 eMINTS4All teachers and a grade 5 replacement

eMINTS4All teacher. The ETS has committed to conduct training for the next three years, with training support to come from Title I and/or professional development funds.

Fulton – The district intends to complete all year two training for the teachers who replaced initial participants, with the district eMINTS Instructional Specialist providing this training. Four Comprehensive (grades 3-5) and two eMINTS4All teachers (grades 2 and 5) will complete their training, supported by the district..

Hancock Place – The district had planned to continue the project by beginning a new cohort, including the three middle school core social studies teachers and the high school science and math teachers, but funding for that project had to be allocated elsewhere for next school year due to the cuts in state funding. We will, however, continue with our Year 2 group to complete their training, with the district ETS taking over that training. It is our intent, as soon as funding allows, continuing forward using district money to train and outfit classrooms using the eMINTS model.

Putnam County – The district will have four replacement teachers next year who will need to receive training, three associated with this particular grant. Due to budget restrictions, we will not be able to send them to official eMINTS training sites and sessions. Instead, the district will use Title and/or professional development monies to bring in a retired eMINTS teacher – who is well-versed in technology and eMINTS requirements – to provide the training.

Richmond – The district now has a trained ETS who will conclude training for those doing Year 2 eMINTS and, hopefully, to initiate a new group of trainees. Because of budget constraints, we are in a holding pattern on deciding how many teachers and how they would be compensated for their time. We are quite pleased, however, to have our ETS on staff and feel his continued support of our concluding group will be invaluable.

School of the Osage – The district is highly supportive of continuing the eMINTS program implementation in coming years. This is evidenced by our past history of maintaining and replacing equipment in the original eMINTS classrooms as a part of our regular building rotation for equipment updates. In terms of teacher skills, now having a district ETS will allow the district to train replacement teachers as teachers trained with this grant retire or move on. The ETS will continue providing Year Two training for a group of Title I and special education teachers, at the district's expense. This group will be able to provide additional support to our special needs students, a high priority subgroup on our NCLB testing.

Sullivan – The district has embraced the eMINTS philosophy since the first eMINTS grant begun in 2000-01. The district has written grants and/or used local funds when available to support the classrooms. We will have a certified ETS on staff that will be able to conduct workshops, train the Year 2 participant, and provide training for any new eMINTS teachers the district might add. The district is committed to keeping technology up-to-date, with a full-time computer technician on staff that keeps our equipment in great shape.

Specific activities planned for the future include training in higher level constructivist teaching strategies, Smart Notebook training, Web 2.0 tools, technology-integrated lesson planning. We are purchasing a curriculum module through our student information system this year, so as that is being built, we can easily incorporate training on creating technology-rich lesson plans when teachers work on curriculum in this system.

Westran – The current Comprehensive and the three 4All teachers that have completed the required professional development are implementing the strategies provided through this training. Six more 4All teachers will continue the required professional development, completing a school-wide eMINTS implementation for the middle school, including fine arts. All teachers will be able to

implement the inquiry and problem-based lessons that are proven to help increase student achievement, allowing the middle school to further integrate technology throughout the entire curriculum.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – The four Comprehensive eMINTS and the eight eMINST4ALL teachers will complete their second year of the required eMINTS program in 2010-11, with the professional development delivered by the district ETS as outlined in her program plan. Funding has been budgeted within the district's professional development program. eMINTS professional development will be provided as new teachers join the middle school staff.

Jefferson City – The district has an eMINTS trainer on staff and is working on a plan to train replacement teachers in eMINTS classrooms. The district trainer will provide support for the district and eMINTS teachers and will offer professional development to all staff on pertinent topics related to eMINTS pedagogy. The district will appropriate funds to the building to support maintenance of eMINTS equipment. All eMINTS trained staff in the district will be given opportunity to collaborate after the grant period has ended.

ARRA GRANTS

Cameron – eMINTS implementation received an incredible and much needed surge this last year, due to receiving grant money, rapidly expanding our present program. Four of the 4th-grade classrooms were already eMINTS established, serving 92 students. This year the grant allowed the district to complete the 4th-grade implementation in the elementary school and expand into six 5th-grade classrooms at the middle school. The eMINTS philosophy now reaches an additional 183 students in the district, with plans to touch the lives of all middle school students in year two (2010-11). The language arts teachers, grades 6-8, will begin Comprehensive eMINTS training in year two, with the professional development provided by the newly trained district ETS and supported with district professional development funds, which will cover stipends after the grant ends. The district ETS will also train any replacement eMINTS teachers, as needed.

The district is committing \$68,000 to improve the network infrastructure this summer in order to improve internal and external connection speeds. This should allow for more reliable access to storage as well as online research and activities.

Cassville – The district will continue the project as an eMINTS trainer is on staff, as well as eMINTS-METS teachers who will continue to facilitate workshops and mentor teachers with new technology in their classrooms. AARA, AARA Special Education and Title I monies are being used to purchase technology equipment and fund professional development.

Lebanon – The district has embedded eMINTS in the Teacher Prep and Student Learning sections of the district's technology plan for 2010-13. The intent is to continue and expand the project as funding permits. Teachers who replace eMINTS/eMINTS4All teachers will complete the required training. The district ETS will provide replacement training, to be funded by building and district professional development funds.

Professional Learning Communities will support expansion of the eMINTS instructional model. Participating teachers will continue to work with their PLCs to develop curriculum and assessments that include eMINTS instructional strategies. The district ETS will offer professional development as needed to support the work of the PLCs.

The school is committed to funding professional development and increased classroom technology in order to expand the eMINTS4All model beyond the fourth and fifth-grade rooms

included in this project. The expansion will be supported by building fundraisers, building budgets, district funds and grants from Lebanon Education Foundation. The district will provide ongoing professional development to support teachers in implementing inquiry-based learning and student-centered technology into their content areas. The district may establish an application process to acquire classroom technology which includes a commitment to professional development on eMINTS instructional strategies.

North Kansas City – The district plans to support the eMINTS initiative for the next two years. We will start eMINTS4All in year two and the district will continue the support in 2011-12. The district plans to provide professional development for replacement eMINTS teachers. The district has two certified eMINTS Specialist and a third is going through PD4ETS training. The district is also providing custom eMINTS professional development for the high school teachers.

Sedalia – The district fully supports the school's eMINTS implementation. All teachers who participated in Comprehensive and eMINTS4All training during year one will continue training during year two. No modifications are necessary for substituting or changing teacher training levels, although one second-grade teacher will move to kindergarten for the 2010-11 school year. She will continue eMINTS4All training and will be an excellent resource for the kindergarten team. Because more second-grade students will be placed in our mixed-age classroom, it will not be necessary to hire an additional second-grade teacher as a replacement. Thus, all second, third, and fourth-grade teachers will have eMINTS training, as well as the literacy coach, music teacher, library media specialist, and one kindergarten teacher.

One change in the professional development for year two of the grant project is the current eMINTS4All trainer, an employee within the school district, who will continue to provide the trainings but will not be responsible for classroom observations. As a result, the eMINTS instructor providing training for Comprehensive participants will also perform classroom observations for eMINTS4All participants, as approved by the eMINTS National Center.

During year two of the grant, we will have four custom professional development sessions. The topics for these trainings have been discussed but not finalized. Current eMINTS participants believe cooperative learning, website training, SmartBoard training, and inquiry-based lessons have been the most beneficial training sessions provided thus far, so it is likely these topics will be included during the four custom professional development sessions. These training sessions will be provided for kindergarten and first-grade teachers, as well as ancillary staff.

Sources of funding for the majority of our eMINTS implementation will be provided through grant funds. However, travel for the Winter Conference will be provided through local funds. Also, despite district budget cuts, the building administrator is diligently using school funds to gradually install technology (computers and SmartBoards) in all classrooms within the building.

Sikeston – The district will continue, with year two professional development led by an eMINTS Instructional Specialist, for the seven returning teachers. The three new teachers and the one teacher who was out much of the last quarter due to health issues will also be trained as eMINTS Comprehensive teachers by the district ETS in year two. We will also train three remedial reading, two remedial math, and two special education teachers in the eMINTS4All program.

St. Louis City – The district intends to continue with the eMINTS project for the upcoming 2010-2011 school year. Currently there are nine teachers who have received professional development from the eMINTS program. Two of those teachers have moved from the St. Louis area and we are planning to replace them. We have plans for our teachers to create and implement an electronic portfolio featuring mathematics and science content. Students will be responsible for doing more research and making classroom presentations.

Wellston – Note: Wellston did not respond to the questions about the future since the district was closed at the end of the 2009-10 school year.

2. Describe any refinements or changes to improve the success of the project.

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton – Sharing information with district teachers outside the eMINTS project would help to build awareness of how the program can positively impact the district's students and staff. The ETS would like to see a monthly in-service where some of the eMINTS techniques could be shared with all personnel.

Fulton – The district will ask eMINTS to supply general trends from the eMINTS surveys the teachers filled out to ascertain areas the trainer could improve on in the future. The district will offer to supply suggestions to eMINTS to help produce updated material to improve the overall training experience for teachers.

Hancock Place – Besides moving a few of the trainings around, there is not much that we would change. The program has been very successful and we are very proud of the benefits!

Putnam County – We do not have any recommendations, as the entire experience has been positive. Every grant administration presents challenges, but none were so large we could not move forward. We were grateful for the opportunity and are thankful for the progress.

Richmond – Whether a coincidence or not, many teachers in this program sought out an advanced degree during their training, with seven teachers starting a master's program. I feel this is due to the nature of eMINTS in that a desire for knowledge was generated through this continued education experience. In addition, parents of students in eMINTS Comprehensive classrooms indicated during informal visits that they felt their students were more excited and challenged through the use of technology in the classroom. Much more communication and closer connections were apparent between classroom teachers and parents.

School of the Osage – Future changes we would like to see include transition planning for students as they leave this building and expanding eMINTS type learning to higher grades when possible. Virtual professional development libraries that could assist new teachers over time to receive eMINTS training would cement these very good eMINTS techniques and develop teachers' instructional styles that truly integrate technology in the classroom.

Sullivan – The middle school has done a good job of providing time for the eMINTS teachers to be trained during professional development days. Teachers are also part of the professional learning community and meet during those times for training as well. We would like to continue this innovative practice. We will encourage other campuses to focus on technology training during PLC times also.

We would like to look at training non-eMINTS teachers to implement inquiry-based or project-based lessons into the curriculum with the use of limited technology in the actual classrooms. Teachers would use available labs, and the library media specialists who are readily available would serve as a resource to students and teachers.

TITLE II.D YEAR 1 eMINTS GRANTS

Gasconade County (Hermann) – The success seen with the project at the middle school has encouraged the rest of the district to want to also participate. The district intends to continue to apply for grants in order to put an eMINTS program in place at the high school.

Jefferson City – The district will train replacement teachers in both Comprehensive and 4All classrooms, will increase digital correspondence throughout the building, and provide teachers with eMINTS modules material before training sessions so teachers can read the material and be better prepared for the training sessions. The district will continue efforts to purchase equipment using district funds.

ARRA GRANTS

Cameron – As the project moves forward, the district will need to establish a dedicated ETS. It takes time to plan for and provide the training and visit classrooms, and having staff available is vital to the success of eMINTS if further expansion is to take place within the district.

Cassville – All buildings have adjusted schedules to accommodate the use of additional computer labs. Professional development has been geared to technology and teachers have opted to use their allotted supply money for instructional software instead of the traditional supplies. Older buildings have had to be rewired in order to accommodate the needed for additional outlets and electrical needs.

Lebanon – The sheer excitement and enthusiasm of students engaged in learning has convinced participating teachers that eMINTS instructional strategies make a difference. Although expected, the depth of students' excitement and enthusiasm made a significant impression on participating teachers.

Sedalia – When discussing possible improvements, eMINTS participants would like to have more professional development time to learn about and create lessons using SMART Notebook and other classroom communication/presentation tools (e.g., Kidspiration, Dreamweaver, and Fireworks). While participants are able to search for and find quality lessons using resources provided through eMINTS training, teachers are struggling to find the time to create their own lessons specific to classroom activities using these tools.

One unexpected benefit has been the increased usage of classroom websites, and teachers discussed how more time and training in developing websites would be beneficial. With easy accessibility of classroom computers, students can now frequently access teacher websites. As a result of increased student awareness, parents are using the classroom website more often as well. Classroom websites often include student work, classroom updates/newsletters, homework help, and educational resources and games. Students are more likely to go to their teacher's websites to find quality online resources, rather than searching the Internet.

As a result of increased classroom website visits, eMINTS participants mentioned the possibility of creating a "master" webpage with educational resources for all subject areas and educational games. This site could be linked from each teacher website, and would allow all students to have access to the same online resources, providing consistency for parents, teachers, and students throughout all grade levels.

Sikeston – The academic leader will be focusing on backwards lessons design this year and will have greater expectations for rigorous instruction and program fidelity. The expectation is that this will help teachers more effectively implement this program and increase student achievement.

3. Provide any additional comments about the project's implementation and outcomes (such as unexpected barriers and/or benefits).

TITLE II.D YEAR 2 eMINTS GRANTS

East Newton – Sharing information with district teachers outside the eMINTS project would help to build awareness of how the program can positively impact the district's students and staff. The ETS would like to see a monthly in-service where some of the eMINTS techniques could be shared with all personnel.

Putnam County – Perhaps the most difficult aspect of the grant was finding a training schedule that would work for all the participants. We had coaches, staff travelling here from other districts, and a trainer who was working full-time as a teacher in a district over an hour away [she deserves many kudos]. In our opinion, any ETS serving districts planning future implementations should not be contracted to another full-time job.

School of the Osage – Unexpected benefits included increased collaboration for the whole building, bonding of the teachers, and how quickly we noticed the increase in student motivation. Unexpected barriers included a high number of viruses brought in before access to outside sites was limited, frustration with sites being blocked due to virus dangers, and the amount of time needed for thorough implementation of this type of learning

In summary, the district has seen benefits from the eMINTS training provided to our teachers throughout the two-year grant period. We hope to continue reaping benefits of this training as we monitor student achievement in the years to come.

ARRA OTHER INSTRUCTIONAL MODEL GRANTS

Approximately 25 percent of the ARRA Title II.D competitive funds was set aside for projects that establish schoolwide implementations designed to improve instructional strategies and student academic achievement through eMINTS-based or other research-based instructional technology models. Following is a brief description of the six “ARRA Other Model” competitive grant projects funded in FY10.

Arcadia Valley (Ironton) “Assess for Success” – 27 teachers and staff and 359 students, grades 9-12

- High school implementation project is providing technology-rich classrooms and professional development for all high school staff to raise student achievement via effective formative and summative assessment. Through analysis of assessment data, teachers are able to prescribe for remediation and enrichment and provide project-based learning activities for course content mastery.

Blue Springs “Writing Classroom Labs” – 18 core teachers in four elementary school buildings and 328 students, grades K-5

- Students in low-achieving elementary schools are improving their writing and technology skills as a result of teacher participation in job-embedded professional development targeting 6-Traits Writing in a technology-rich environment. One teacher per grade level and building are trained to serve as the Writing Classroom teacher, working with other teachers in their grades levels and buildings (eventually impacting 63 teachers and 1,139 students).

Columbia “Fostering Learning with EnTICE” – 16 teachers and 440 students, grades 6-7

- Middle school “Enhancing Technology Instruction in Classroom Environments (EnTICE)” project gives teachers a systemic, comprehensive way to foster critical thinking skills which, in turn, leads to improved student achievement. EnTICE professional development integrates key components of the eMINTS instructional model.

Eldon “Rigor, Relevance & Relationships” – 21 teachers and 295 students, grades 7-8

- Middle school project builds on the district’s eMINTS implementation at grades 4-6, supporting students as they move through grades 7-8. The project provides technology-rich classrooms and professional development for teachers to learn how to use the technologies and implement inquiry-based instructional strategies by participating in professional development based on the eMINTS4All model.

Nixa “Eagles Take Flight into 21st Century” – 39 teachers and 830 students, grades 5-6

- Project is enhancing teaching strategies and increasing student achievement in communication arts, mathematics, and technology literacy. Professional development assists teachers as they increase their use and understanding of technology literacy and inquiry-based instructional strategies based on the eMINTS instructional model and training modules.

Ritenour and Ferguson-Florissant “Digital Storytelling in High School Social Studies” – 10 teachers and 250 students, grades 11-12

- Project involves social studies teachers from two district high schools, collaborating on student digital storytelling assignments. Professional development uses a research-based model from McREL’s *Using Technology with Classroom Instruction that Works*, Bernajean Porter’s *Grapplings Spectrum of Technology Integration*, and the BJC HealthCare School Outreach and Youth Development’s *Factoring in Forgiveness*.

Project Information – Building Information

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level.

Table 33
Other Instructional Model Grant Buildings – Total Number of Teachers and Students by Grade Levels

	K-2	3-5	6-8	9-12	Totals
Teachers	9	29	56	37	131
Students	160	590	1,102	609	2,461

Project Design – Professional Development Information

TEACHERS AND STUDENTS: Enter numbers of teachers and students in project, by grade level and professional development program type. [Note: *duplicate reporting of students is likely in some instances.*]

Table 34
Other Instructional Model Grant Buildings – Participating Teachers (T) and Students (S) by Grant, Professional Development Program, and Grade Levels

Professional Development Program	K-2		3-5		6-8		9-12		Totals	
	T	S	T	S	T	T	S	T	S	T
Arcadia Valley “Assess for Success”										
• MS Office 2007, SmartBoards for Assessment, Smart Notebook, Rapid Response System, Rapid Response Data Analysis, Scantron Data Analysis, Rolla RPDC Core Area Technology Training							27	359	27	359
• OPD course Classroom Assessment Enhanced by Technology							25	358		
Blue Springs “Writing Classroom Labs”										
• 6 traits writing, tech literacy basics, effective use of tech writing tools, tech coaching/modeling, 6 traits coaching/ modeling	9	160	9	168					18	328
• Tech and writing process			9	168						
Columbia “Enhancing Technology Instruction”										
• Inquiry-based learning							16	399		
• Classroom community										
• High-quality lesson design										
• Powered by tech										
• Inquiry-based learning									16	399
Eldon “Rigor, Relevance & Relationships”										
• Grappling technology integration, Inquiry based questioning, Web page design, Word/PPT/Excel , Moviemaking, Visual literacy, Scanner, Digital Camera, Interactive whiteboards, Interdisciplinary lesson design , Moodle, responders, SMART Ideas						21	295		21	295
Nixa “Eagles Take Flight into 21st Century”										
• Transforming learning with technology, Constructivism and inquiry-based lessons , Questioning, Cooperative Learning, Interactive Internet resources			20	422	19	408			39	830
Ritenour (and Ferguson-Florissant) “Digital Storytelling in High School Social Studies”										
• Team-building, Cooperative Learning, Lesson planning, Creating multimedia projects using interactive whiteboards, Using technology with Marzano’s Learning Strategies, Digital Storytelling, Videoconferencing, Web 2.0 tools, Conflict resolution							10	250	10	250
Totals	9	160	29	590	56	1102	37	609	131	2461

Project Benefits

1. Describe how project has changed/is changing teaching in the building or district.

Arcadia Valley “Assess for Success” – The project has allowed all our high school teachers to implement technology through SMART Boards, projectors, and rapid response systems to improve student assessment at the formative and summative levels. Teachers changed instruction to include the new technology and to require grade-level student projects using technology.

Blue Springs “Writing Classroom Labs” – Project teachers are aware of how technology positively impacts the planning and outcome of a writing lesson. The WLC has provided teachers with the skills needed to teach the full spectrum of the writing process, including organizing ideas/concepts, and then provided them the tools to incorporate writing and revising processes.

Columbia “Enhancing Technology Instruction” – Reading, writing, and social studies teachers implemented the EnTICE technology integration model. Over the course of the year, teachers used the equipment to develop classroom community and units integrating technology. Through staff development and support, all teachers were able to integrate all elements of the model in their classrooms at some level.

Eldon “Rigor, Relevance & Relationships” – Being able to add technology into this building has been a tremendous benefit. Students who feed into this school come from a school building that is fully technology-equipped, and it has been desired to make sure these students didn’t go from a technology-rich, inquiry-based learning environment to a traditional teaching classroom. Most of the teachers in this building are veteran teachers and have been teaching without the technology. This has opened new doors for them to explore their styles and strategies they use to make their classrooms more of a collaborative and problem-based environment.

Nixa “Eagles Take Flight into 21st Century” – The grant has positively impacted the instruction in fifth and sixth grades. Due to the ongoing training and support, teachers enhanced their teaching to include inquiry-based strategies, cooperative learning, highly-engaging research projects, and integration of technology tools and resources.

Ritenour/Ferguson-Florissant “Digital Storytelling in High School Social Studies” – Teachers have become more student-centered and more interested in how students learn curriculum content. Teachers have moved to a more project-based approach to student learning outcomes and have become more flexible in their assessment tools, letting students have more choices in how they demonstrate their learning. We also noticed teachers developed a more collaborative approach to planning their lessons and projects, which we feel is due to the networking in the professional development sessions where they have opportunity to talk and network with each other as well as across districts.

2. Describe how project has changed/is changing student learning in the building or district.

Arcadia Valley “Assess for Success” – Student learning has increased through the assessment process as aided through technology. Teachers assess daily lessons and unit lessons. Students report improved lesson presentations. All high school students are assigned grade-level projects for hands-on use of technology.

Blue Springs “Writing Classroom Labs” – The grant has changed student learning significantly. Students are engaged in learning and have gained a variety of writing strategies. The technology has led them to be more engaged, confident and thorough in their writing. The targeted students are now scoring at or above the district average in writing.

Columbia “Enhancing Technology Instruction” – Students wrote digital essays, made online portfolios, and completed community service projects. Students learning about using email to communicate with one another and their teachers. They had flexibility in how they proved mastery to one another, whether the product was an essay, a multimedia project, or a Powerpoint. Student had the ability to do all these things because of readily available equipment purchased with the grant and increased teacher understanding of technology integration.

Eldon “Rigor, Relevance & Relationships” – This project has allowed the feeder students to continue with the “new” way of learning that was introduced to them at the lower grade levels. Many students in the district don’t own computers so this has enabled them to explore a whole new way of thinking and learning. Just like for teachers, having technology at students’ fingertips has open new doors for exploration.

Nixa “Eagles Take Flight into 21st Century” – The grant also positively impacted the learning and achievement of students. Due to the integration of technology and best instructional practices, students showed a higher level of motivation and engagement. This led to positive student achievement on district assessments and daily classroom tasks.

Ritenour/Ferguson-Florissant “Digital Storytelling in High School Social Studies” – The initial digital storytelling projects students submitted were fair to poor. However, after their immersion in the concept of digital storytelling and its elements, projects remarkably improved. Student engagement and motivation improved greatly, and the relevance of the assignment to the concept of conflict resolution became very personal as well as global in nature. Teachers reported that students who had never contributed in class and were apathetic and disengaged, suddenly seemed to blossom. One teacher cited a student who had never spoken to him or aloud in class, who stayed after class to ask questions about her digital story project.

3. Describe the **most successful activities or outcomes** of the project.

Arcadia Valley “Assess for Success” – The professional development provided to all high school teachers was a complete success. Our teachers were provided 50 hours of assessment writing using technology, skill development using technology for assessment and increasing student use of technology in their classrooms.

Blue Springs “Writing Classroom Labs” – One of the first benefits of the grant was the district’s commitment to support the project with Netbooks to complement the grant-purchased computer labs. This enabled student and teacher access to both full-featured computers and mobile computers that could be used flexibly throughout the building. This also provided opportunities for extended projects that could be continued and enhanced in individual classrooms. Targeted teachers and students have loved using technology in the classroom and in the new computer lab from the very first day of implementation. The outreach opportunities both in the targeted schools and throughout the district have prompted the other principals and teachers to want to participate in a similar project. To accomplish this, the district and individual buildings are developing technology/writing process implementation plans.

As part of the project, VoiceThreads, a web-based collaboration and multimedia tool, was used to encourage students to write. Students were able to post comments to their classmates regarding their writing. The discussions that were generated were viewed as slide shows. The initial successes with technology and the student writing demonstrated students’ potential to their teachers that carried over to the skills required to demonstrate proficiency in writing.

The Writing Lab Classroom Initiative has been very fortunate to experience many successful projects as a result of this grant. A few examples are:

- One kindergarten teacher created a lesson centered on the five senses and stationed five Netbooks around the classroom along with a brown paper bag containing an object/

substance that had to do with the five senses. Students smelled, touched, looked, listened and tasted their way around the room. At each station they had to make an inference about their object/substance and write it down on paper and then use the Netbooks to record their response in VoiceThreads. At the end of this project students were able to observe how the other students responded at each station as well as walk away with a written piece to show parents that highlighted student use the 6-trait writing process with technology tools.

- A fifth grade teacher used the Netbooks and digital camera to create a persuasive piece of text to convince the principal to start a new after-school club for students. Each student used Kidspiration to create graphic organizers and then typed up their final copy. The digital camera was used to present the complete project to their audience, the principal. An unexpected surprise for the students was that the principal actually chose one of the clubs to implement during the upcoming school year.
- Third grade students used the computer lab and the scanner to create student books based on *The Red Book* by Barbara Lehman. The teacher created a template in the same format as the picture book and scanned it in the computer. Then she placed a copy of this template in a folder on each computer in the lab. Students pulled up the template and were able to create their own books in the same style as Barbara Lehman.

The three building principals also participated in the building professional development. As a result of their training, each of the grant principals received a Walk Through chart with “what to look for” in a writing/technology based classroom. They are responsible for completing walk-throughs on each of the cohort teachers in their buildings and then meeting with the instructional coaches to discuss their findings. Involving principals in the process of observing and conferencing with teachers has raised the level of accountability for both teachers and principals.

All three grant buildings participated in an evening of technology and writing for parents, students, and other teachers around the district. This was an exceptional activity that effectively highlighted this project and the benefits to students. The targeted buildings opened the night with a presentation by Brad Sneed, a local illustrator/author, who did a wonderful job of sharing his journey from a kid who loved to write and draw to becoming a professional illustrator. Parents and non-project teachers then had the opportunity to peruse the student writing projects and listen to teachers and students describe their writing projects and activities. This also allowed the cohort teachers to display their portfolio projects and explain what technology they used to create each lesson. Over 400 people attended one of the three afterschool events. Examples of the displays and opportunities to share with parents and teachers are illustrated in the following pictures.

This showcase was an incredible opportunity for the cohort teachers, from schools that have typically been “at the bottom of the barrel” in terms of educational highlights, to showcase their students’ work and achievement. This enabled the community and entire school to take pride in real student progress. This also helped set the stage for the continuation of this project into the next school year as these teachers will take a leadership role in the district in modeling and leading the integration of technology into the writing process.

One of the most critical strategies used to achieve this increase in excitement, confidence and ability is the in-class coaching that took place throughout the year. The teacher cohort had significant follow-up to their professional development sessions on 6-trait writing and technology, with coaching provided on a consistent basis. Ruth Culham, a national 6-trait writing trainer, not only modeled in classrooms after her input sessions, but also modeled effective use of technology in the writing process. The district writing instructional coaches provided additional modeling, observations, and coaching; district technology trainers modeled in classrooms and coached them on the technical issues of the technology tools as well as assisted cohort teachers in designing writing projects. The ability of the cohort teachers to access expertise in the design as well as the implementation proved to be a critical element in this project’s success. This coaching gave teachers the confidence to “try something new” as they knew they would have the support to overcome initial glitches with technology as well as concerns with 6-trait writing.

Without this coaching component, the success and enthusiasm of the cohort teachers would not be where it is and the district would not be ready to implement Phase II of this initiative.

Finally, the fact that this was a “grant” that these targeted buildings received partly as a result of low achievement in communication arts and the writing process provided significant motivation to the entire staff to increase their expectations of students. The project has redefined what makes a “good” lesson for project cohort teachers who are now inspired to set new goals and expectations for their students. This wave of excitement has spread throughout each building and they now have teachers teaching teachers about the significance of integrating technology into district curriculum. The cohort teachers have created user-friendly lessons that keep the students interest and push them beyond the ordinary and are now in the beginning stages of working with their colleagues with both the 6-trait writing process as well as technology tools to assist students in learning and practicing the writing process.

Columbia “Enhancing Technology Instruction” – Two teams of teachers helped students create digital portfolios in which to display student writing, learning, and growth. Two teams of teachers wrote digital essays with their language arts students. All social studies teachers worked on developing presentation techniques and honing research skills. ELL and special education students used the computer as tool to communicate in a variety of ways not typically used in middle school classrooms. Based on data mined by the Assessment and Research Center at the University of Missouri, student writing assessment scores improved more for student utilizing the computer as a tool than for students not using the computer as a tool. This was an immensely successful project and will be so next year as we continue the technology to implement high-quality lesson design.

Eldon “Rigor, Relevance & Relationships” – The most successful activities have been the teacher professional development. Many of these teachers hadn’t previously been using technology at all, let alone as a way to enhance their student’s learning. Many teachers branched out with their thinking when planning their units of study which forced their students to work on higher-order thinking skills. The interdisciplinary unit was a big success in the fact that the students began to really see the connection between their subjects instead of isolated disciplines.

Nixa “Eagles Take Flight into 21st Century” – The most positive outcome of the grant was the growth of teachers in the area of inquiry and technology integration. With their new skills and understanding of best practices, students were engaged in research projects in every subject area. Another positive factor was the daily instructional methodology, changing from teacher directed to interactive and student centered. A highlight of the year was the end-of-year film festival. Students created videos using all the skills they learned in their classrooms this year. The videos were submitted for review and the top 3 winners at each building were given prizes. All classroom entries were recognized. This built a high level of motivation and it served to display their use of technology in the classroom.

Ritenour/Ferguson-Florissant “Digital Storytelling in High School Social Studies” – The most successful outcome of this project were the digital stories around conflict and resolution which were presented in very touching ways. Each movie created represented rigor and fidelity to the task and provided evidence of student self-direction. Students had to start and finish a large project, with multiple parts/tasks associated with it in a specific timeframe, involving a great deal of research. Students had to bring together facts and interpretations of the facts, along with illuminating pictures, music, sound effects, and special effects to engage viewers and draw them into the story. One teacher admitted he felt very uncomfortable with the technology and was not proficient in its use. He was able to let go of his fear and encourage his students to experiment and find out how to use the hardware and software to its best advantage. His “take-away” was that he could be a co-learner in the classroom with his students and they could teach him while he taught them. Two teachers remarked that they felt the project had totally transformed the way

they taught, that their teaching had gone from teacher-centered to student-centered, and were enthusiastic about trying out new technologies next year. This was a significant change in their teaching practice in so short a time.

Project Goals and Objectives

The primary goal of all Title II.D competitive project implementations is to provide quality professional development that helps educators integrate technology in proven, research-based instructional strategies, resulting in improved student academic achievement (including technology literacy skills). Missouri grant recipients are required to report annually on objectives related to 1) student academic performance, 2) student technology literacy, 3) enhanced teacher instructional strategies, and 4) increased teacher proficiency in using technology. In some cases, district projects identified additional goals (such as higher attendance rates, fewer disciplinary referrals, or improved parent involvement).

GLOSSARY: OSEDA refers to an external evaluator, MAP is the Missouri Assessment Program, DOK is depth of knowledge, MSIP refers to the Missouri School Improvement Program, and AQ refers to the MSIP advance questionnaire.

Arcadia Valley “Assess for Success” – 27 teachers and staff and 359 students, grades 9-12

GOAL: to use technology to increase student achievement through the design, presentation, and analysis of formative and summative assessments that leads to enhanced technology-rich instruction through new strategies that reflect remediation and enrichment

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. Concept mastery: 80 percent of high school students will master 80 percent of district-identified student learning objectives for each course as measured through technology-based summative assessments at the end of each quarter/semester during the school year (including the state end-of-course assessments where appropriate).**

Results: This objective was met. Each teacher wrote and administered summative assessments for one course (used in all sections of the course). The results were reviewed by instructional coaches. Results indicate students mastered the unit objectives at an average of 83 percent.

- 2. Technology literacy: Students will successfully complete a grade-level technology-based project that meets 80 percent proficiency as assessed by a scoring guide of essential student technology skills developed by grade-level teacher committees.**

Results: This objective was partially met. Grade-level teacher committees defined the essential technology skills, using NETS and Missouri Show-Me Standards, developed the student technology demonstration projects and scoring guides for each grade level project – all which were reviewed by the project’s external evaluator. The language arts department took the lead in integrating technology in a class project. As shown in Table 35, students in grade 12 and in grade 11 honors classes met the objective of earning 80 percent or higher on their projects.

Table 35
Percent Students Scoring 80 percent or Higher on a Technology-Based Project

Grade	Students Scoring at/above 80 Percent
9	68% (Honors = 75%; Career Path = 61%)
10	74%
11	68% (Honors = 80%; Career Path = 56%)
12	92%

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **Technology integration: All high school teachers will implement formative assessments (at least three times per week) and quarterly summative assessments, complete data analysis, and provide students with remedial and/or enrichment activities for at least two courses they teach during the 2009-2010 school year.**

Results: This objective was partially met. Formative assessments were used in all classes, but the district did not keep checklists to verify that they were used 60 percent of the time. It was determined that with all the professional development, writing of formative and summative assessments, and beginning the process of developing remedial lesson, that the staff was being pushed as far as they could go in one year. The checklists will be employed in year two.

4. **Technology literacy: 85 percent of high school teachers will attend at least 50 hours of district-provided professional development and master 88 percent (pass 6 of 7 tests with 90 percent mastery) of district-developed assessments at the end of each professional development activity during the 2009-2010 school year. Professional development centered on eight topics, with seven involving a district-made hands-on assessment, with remedial study sessions and re-testing provided as necessary.**

Results: This objective was met: 25 teachers completed professional development, and two completed 75 percent. All 27 teachers passed the district-made assessment for the seven sessions with at least 90 percent mastery. Mastery in some cases was met after remediation. 25 teachers completed and earned credit for the on-line learning course.

Blue Springs “Writing Classroom Labs” – 18 core teachers in four elementary school buildings and 328 students, grades K-5

GOAL: Teachers in the Writing Lab Classroom initiative will demonstrate the use of research-based instructional and technology skills that lead to improved student writing skills, academic achievement and technology literacy.

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **Writing: Participating students will demonstrate mastery of the 6-Traits proficiency levels at levels comparable to or exceeding overall district proficiency levels. The expectation is for all participating students to demonstrate mastery, closing the achievement gap between students in the targeted schools and overall district averages.**

Results: Objective was partially met. Students were assessed for mastery of each Trait in the fall and spring, with mastery indicating a score of 3 or higher on a 5-point scale on the 6-Trait Condensed Scoring Guide. As indicated in the tables below, while not all students mastered each writing trait, 75 percent or more of participating students demonstrated mastery in 61 percent of cases (22 of 36 cases based on six grades and six writing traits).

Table 36
Percent Targeted Students Demonstrating 6-Trait Writing Mastery, by Grade Level Cohort and Writing Trait

Grade	Ideas	Organization	Word Choice	Sentence Fluency	Voice	Convention
K	83%	62%	55%	51%	51%	49%
1	96%	99%	84%	84%	82%	73%
2	73%	76%	80%	73%	70%	73%
3	89%	77%	73%	71%	74%	65%
4	97%	97%	94%	94%	91%	88%
5	92%	97%	98%	94%	98%	94%
Average	88%	85%	81%	78%	78%	74%

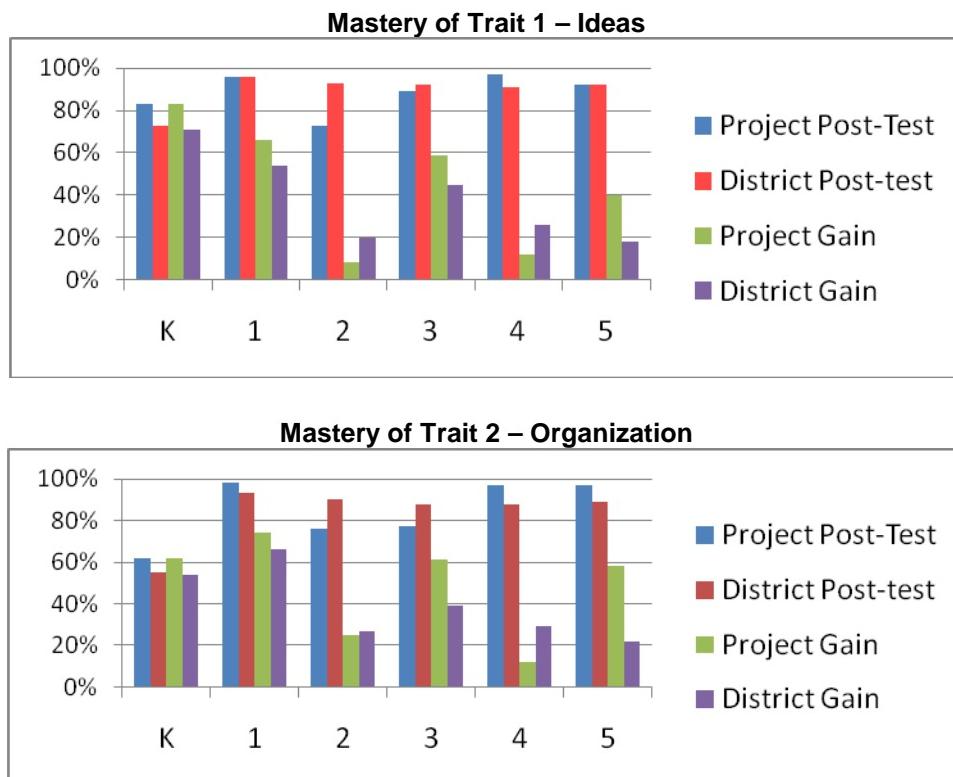
Table 37 shows students had gain rates at or higher than the district's overall gain rates in 64 percent of cases, indicating the gap that existed prior to implementation of the project is no longer a consistent gap. While additional effort in targeted grades and with specific traits is warranted, the overall gap was reduced and progress was significant for a one-year project. The targeted schools did not have evidence of effective implementation of 6-Traits writing and experienced significant gaps in proficiency on the 2008 Communication Arts MAP test, with double-digit gaps in 3rd and 4th grades. The district will take these encouraging results from the 6-Traits writing samples and compare improvement in student proficiency in 6-Traits in relation to an expected improvement on the 2010 Communication Arts MAP assessments for students in the project's schools.

Table 37
**Targeted Students with Pre-Post Gains at or Above District Gain Rates,
by Grade Level and Writing Trait**

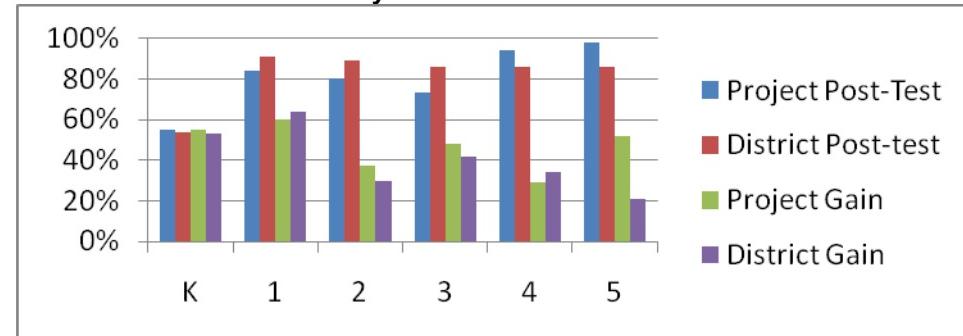
Grade	Ideas	Organization	Word Choice	Sentence Fluency	Voice	Convention	Totals
K	✓	✓	✓	✓	✓	✓	6
1	✓	✓			✓		3
2			✓				1
3		✓	✓	✓	✓	✓	5
4				✓	✓		2
5	✓	✓	✓	✓	✓	✓	6
Total	3	4	4	4	5	3	23

The following figures illustrate for each writing trait the percent of students demonstrating mastery on the pre- and post-tests and the percent gain, comparing rates of targeted students to overall district rates.

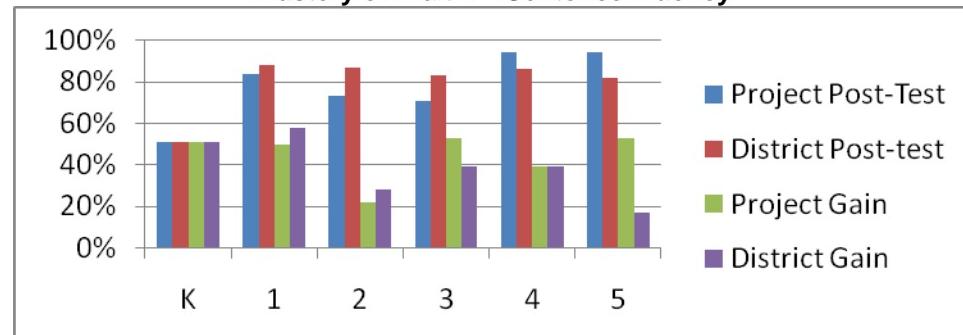
Figure 38
6-Trait Mastery Pre-Post Assessments



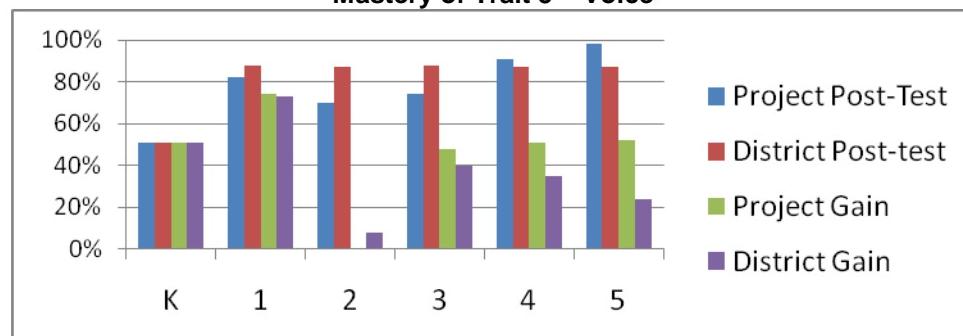
Mastery of Trait 3 – Word Choice



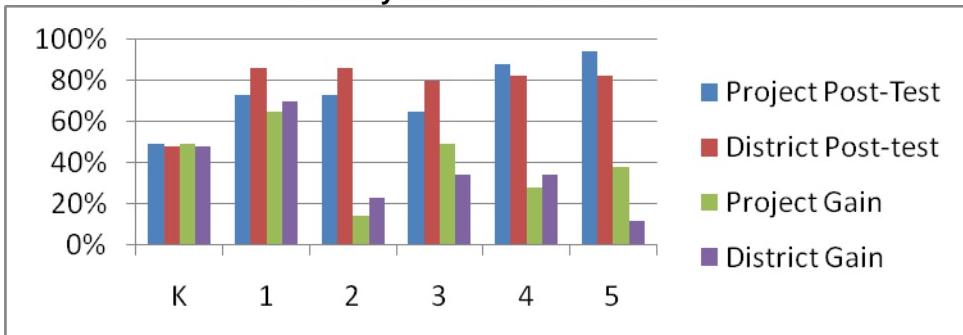
Mastery of Trait 4 – Sentence Fluency



Mastery of Trait 5 – Voice



Mastery of Trait 6 – Convention



2. **Technology Literacy:** Participating students will master student technology performance standards established by the district), as measured by teacher observation and interviews and student writing portfolios and technology survey responses.

Results: Objective was substantially met, with students demonstrating proficiency in 90 percent of the district's technology literacy standards. The district identified 10 standards for each grade span, K-2 and 3-5, based on the ISTE National Educational Standards for Students (NETS-S). By spring 2010, participating students met all ten of the K-2 standards and eight of the ten Grade 3-5 standards. The two that were not met [2. *Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide.* 8. *Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities.*] were not ignored, but insufficient time was available to focus on them and the number of technologies introduced and used by students was limited. As a result, the evaluator, teachers, and writing coaches determined that students did not use a wide enough variety of technology resources to meet the criteria expected for mastery.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **Instructional strategies:** Participating teachers will demonstrate ability to effectively teach writing using the 6-Traits Writing process by scoring at or higher than the Proficient implementation level, based on an observation protocol and survey; and participating teachers will demonstrate ability to integrate ISTE NETS-S standards that promotes technology and engages student learning while teaching the 6-Traits Writing process, as measured by fall, winter, and spring walkthrough observations.

Results: As the year progressed, there was significant evidence that the cohort teachers were improving their ability to implement the 6-trait/technology expectations. Multiple sources of data were collected and analyzed to determine changes in teachers' attitudes, knowledge, confidence, and skills in both the writing process and using technological tools to help students demonstrate mastery of the learning process. This triangulation of data enabled the project evaluator and the district to determine whether the changes were isolated or only surface changes or truly reflected a complex and deep change in teacher attitudes and practices. In addition, as the processes used were ongoing, the District was able to adjust training and support as it was needed throughout the year. Thus, any problems or glitches were addressed before they became barriers to the project's success.

The building principals and writing instructional coaches conducted walkthroughs to observe actual implementation (differentiated for K-2 and Grades 3-5). The data showed teachers' progressing during the year, and significantly improving their skills.

Table 39
Percent Teachers Rated Proficient During Fall and Spring Walkthroughs

Grade	Teachers Rated Proficient	
	Fall 2009	Spring 2010
K	17%	81%
1	17%	89%
2	11%	63%
3	41%	85%
4	19%	67%
5	33%	81%

4. **Technology literacy:** Participating students will show increased use of technology, resulting in improved technology skills.

Results: Based on surveys, interviews, and observations conducted in the fall, winter, and spring, cohort teachers showed significant gains in the use of technology in their classroom with their students.

- In the area of frequency of use of digital tools and resources on a daily basis cohort teachers increased from 6.3 percent to 23.1 percent; and on a monthly basis, 100 percent of cohort teachers are providing time for students to use digital technology.
- In the area of the use of technology to help students develop writing on a weekly basis our teachers increased from 12.5 percent to 61.5 percent.
- Results indicate that 84.7 percent of teachers use digital tools and resources at least once a month to help students create, develop, revise and/or edit their writing. This percentage is up from 31.3 percent reported in the fall 2009.
- Cohort teachers have reported an increase of almost 29 percent in modeling and facilitating the effective use of current and emerging digital tools and resources to support writing in their classroom on a weekly basis.
- Cohort teachers report significant gains in the area of students using digital tools and resources in the classroom to enhance their writing ability. Cohort teachers increased this percentage from 12.5 percent to 53.8 percent on a weekly basis.
- In the use of digital tools and resources to promote student creativity and innovative thinking, cohort teachers show an increase from 18.8 percent to 53.8 percent on a weekly basis.
- Cohort teachers are doing a better job of engaging students in learning activities that require them to use digital tools to work through the writing process. These statistics increased from 6.7 percent to 46.2 percent on a weekly basis.
- Teachers show growth in allowing students to use digital tools and resources to plan, prepare, and present their writing. Our gains show an increase from 20 percent to 100 percent on a monthly basis.

In addition, teachers demonstrated significant growth in their actual use of technology to help teach 6-trait writing. The NETS-T Standards and the Level of Technology Implementation achieved at the end of one year of the Writing Lab Classroom Project show that cohort teachers positively responded to the expectation to use technology and to use it effectively as detailed in the district's technology plan. The project target was to be at least at Level 3 of this framework, which places teachers at the "Infusion" level. At Level 3, the instructional focus has moved beyond exploration and lower levels of student thinking, with an instructional focus that emphasizes student higher order thinking and engaged learning. While there are variances, all cohort teachers changed their teaching practices so as to integrate the designated technology tools into the writing process. The average rating on the NETS-T standards met the expected criteria of Level 3 implementation for the technologies that were a part of this project. The evaluator and district administrators did not expect that in less than one-year all cohort teachers would be at a higher implementation level or be at a Level 3 on all forms of technology. The four NETS-T sub-standards that were not met at Level 3 were not part of the project emphasis during this first year. Some teachers did meet those standards, but only due to their own focus and interest and not entirely due to this project.

The cohort teachers entered the program with the expectation that technology was a major component of this initiative and that they would be expected to serve as models and collaborative resources in Phase 2 of the Writing Lab Classroom that would continue after this initial grant year. This expectation moved teacher implementation at a faster pace than if the project had started without that built-in expectation. The challenge will be to maintain this Level of Implementation Pace in future years.

Columbia "Fostering Learning with EnTICE" – 16 teachers and 440 students, grades 6-7

GOAL: Improve student achievement through EnTICE professional development that integrates key components of the eMINTS instructional model and gives teachers a systemic, comprehensive way to foster critical thinking skills.

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. Writing: Participating sixth-grade students will improve their writing performance as measured by pre-post administration of the District Writing Assessment (DWA). All students in the fall will complete a writing assignment by hand. In January, and again in the spring, half of the students (selected via random sample) will write by hand and half using computers. Teachers will score the writing, and ARC (external evaluator) will analyze the results.**

Results: Student scores on the DWA increased from fall 2009 to spring 2010, meeting the project's goal of an increase in scores. Students taking the DWA assessment using the computer increased their score more than did students who hand-wrote their DWA responses. There was no significant difference between subgroups in method used for taking the DWA from fall 2009 to spring 2010

- 2. Technology Literacy A: Participating students will increase their technological knowledge as measured by pre-post administration of the district's 8th Grade Technology Literacy Assessment. The assessment includes 30 multiple-choice questions related to computer use and terminology.**

Results: Objective was met. The assessment was administered in the fall and spring. ARC computed the percentage of 6th grade students selecting the correct response for each question, in the fall and spring, and compared percentages to determine if students had improved over time. Overall, students averaged 65 percent correct answers in the fall and 76 percent correct in the spring, showing an 11 percent increase. Table 40 lists the question topics, student performance statistics by item and test period, and percent change from fall to spring.

Table 40
Student Technology Literacy Skills Pre and Post Assessment Scores

Technology Literacy Skill	FALL 2009 (N=391)	SPRING 2010 (N=425)	Percent Increase (fall to spring)
	Correct Answers (Percent Students)	Correct Answers (Percent Students)	
Acceptable Use Policy	78%	84%	+6%
Saving documents	81%	88%	+7%
Public domain	47%	58%	+11%
Spreadsheets	34%	54%	+20%
Digital copy/scanner	57%	66%	+9%
Computer virus	75%	84%	+9%
Netiquette (spam)	50%	61%	+11%
File storage	90%	94%	+4%
Photo in Word	80%	86%	+6%
Databases	51%	61%	+10%
Online databases	40%	49%	+9%
PowerPoint	81%	89%	+8%
Chat room safety	92%	98%	+6%
Excel	49%	55%	+6%
Excel	69%	80%	+11%
Internet safety	85%	92%	+7%
URL	44%	66%	+22%
Hyperlink	60%	76%	+16%

Paint program (insert text)	66%	84%	+18%
Paint program (zoom)	87%	93%	+6%
Copyright	55%	68%	+13%
Internet defined	56%	62%	+6%
Web resources	67%	80%	+13%
Icon	65%	80%	+15%
Evaluating websites	66%	84%	+18%
Developing multimedia	51%	68%	+17%
Home page	82%	89%	+7%
Trouble logging in	83%	91%	+8%
Evaluating websites	50%	62%	+12%
Multimedia	52%	65%	+13%
Average Overall	65%	76%	+11%

3. **Technology literacy B: Student self-reporting of their technological skill will increase as measured by pre-post administration of the Student Technology Literacy Survey.**

Results: The objective was met. ARC hosted a web survey (adapted with permission by the Office of Social and Economic Data Analysis at the University of Missouri from the Bellingham Public School student survey, and the ISTE NETS-S). The survey had 25 statements for students to self-report their knowledge and use of technology on a scale of one to four. IDK (I don't know) responses were scored as 0 and included in computing the mean score. The reasoning behind this is that if students answer "no" they are stating that they do not know how to do the task; however, if students answer IDK, they do not know if they are able to perform the task. This answer shows that these students know even less about that technological skill than those who answer "no."

The original plan was for students to take the survey in fall 2009 and spring 2010; however, students answered the survey in January and May 2010. The overall mean score was 3.1 at Time 1 and 3.4 at Time 2 (Table 41), impressive considering the short time frame between survey administrations.

**Table 41
Student Technology Survey Mean Score**

	Jan/Feb10	May10
Number of 6th grade students taking the survey	419	398
Overall mean score	3.1	3.4

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

4. **Instructional strategies and technology integration: Teachers will increase technological competency and integration as measured by a portfolio scoring guide focusing on high-quality lesson design, inquiry-based learning, classroom community powered by technology, and action research.**

Results: Objective is in progress. Throughout the school year, participating teachers worked on electronic portfolios. The portfolios were submitted to ARC for review in fall and spring.

5. Student engagement: School-wide student engagement with learning will increase as measured by the Instructional Practices Inventory (IPI).

Results: A minimum of 100 classrooms were observed by MU students in fall 2009 and spring 2010 using IPI process (scale of 1 to 6 using “Look-Fors”). Student engagement was noted to have increased during the year.

ADDITIONAL OBJECTIVE

6. School Climate: Teachers will perceive that more importance is placed on attributes of the EnTICE model at Time 2 compared to Time 1, as determined by the mean scores in the areas of classroom practices, technology, and communication on the School Climate Survey.

Results: Objective was met. Staff completing the survey included 42 of the approximately 80 certified staff members, including nine of the 15 EnTICE teachers. Overall, staff report a positive climate toward EnTICE and its tenets.

- Staff agreed that the emphasis of instruction is on relationships, inquiry, and invention; that computers are available and in good working order; and, that teachers have the technical support they need.
- Participating teachers reported awareness of EnTICE innovations; that technology in their classroom is most often used for communication; that parental involvement is encouraged by both staff and administrator; and, that EnTICE innovations are encouraged and supported by administrators.

Eldon “Rigor, Relevance & Relationships” – 21 teachers and 295 students, grades 7-8

GOAL: Increase student achievement for all students in grades 7 and 8.

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. Core content concept mastery: The number of students who score at the proficient or advanced levels will increase by 10 percent, as measured by the Study Island benchmarks in communication arts and math and the posttests for science and social studies.

Results: As the following tables indicate, nearly all targets were met. Participating students showed a great deal of progress in core subject areas as measured by common assessments. Pre- and post-tests were administered in fall of 2009 and spring of 2010 in four core subject areas. Study Island, like the Missouri Assessment Program (MAP), reports assessment data using the terms: Advanced, Proficient, Basic and Below Basic.

Table 41
Content Areas and Grade Levels Meeting 10 percent Gain Target

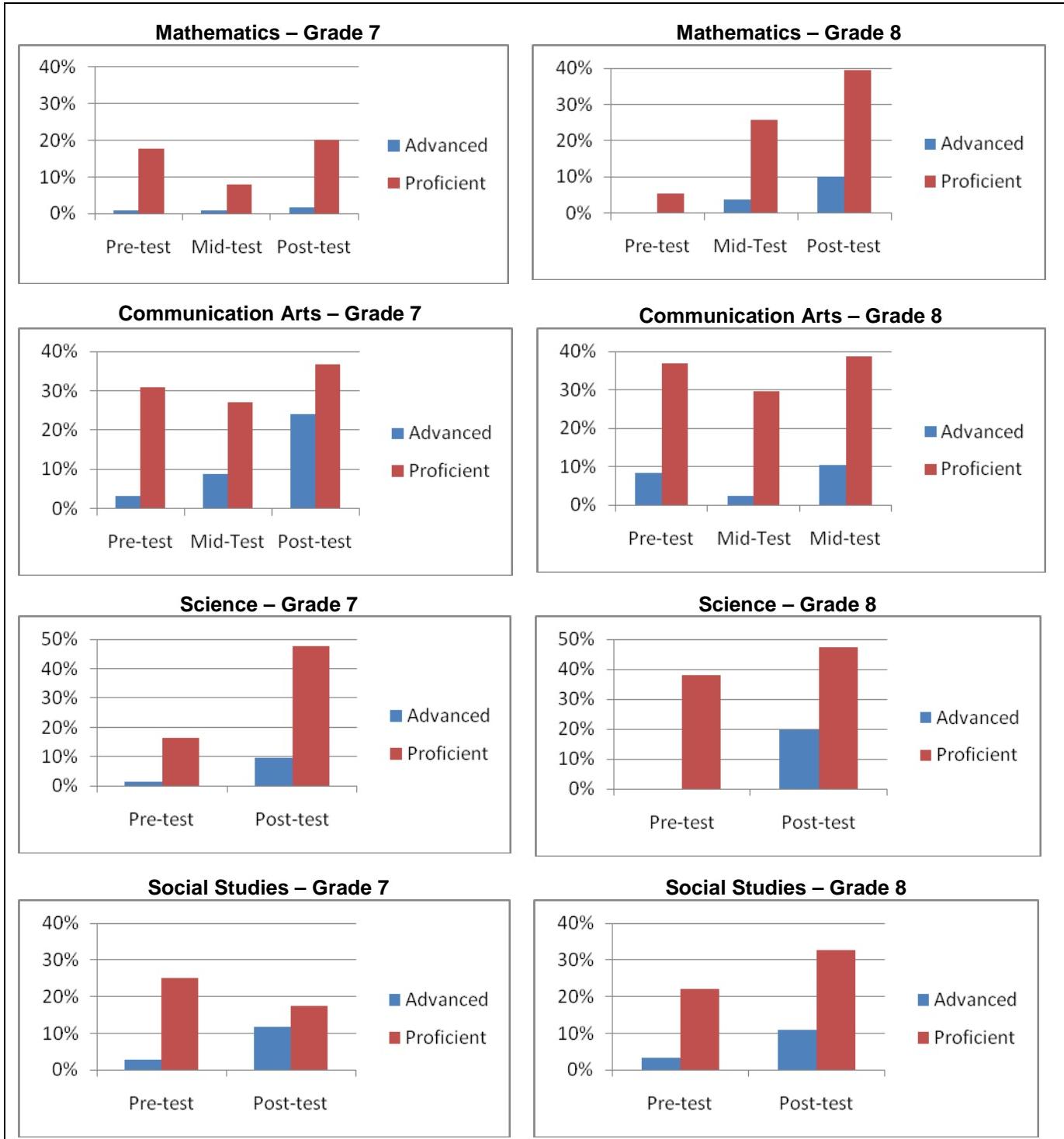
	Mathematics		Communication Arts		Science		Social Studies	
	Grade 7	Grade 8	Grade 7	Grade 8	Grade 7	Grade 8	Grade 7	Grade 8
Advanced	✓	✓	✓	✓	✓	✓	✓	✓
Proficient	✓	✓	✓		✓			✓
Overall	MET	MET	MET		MET			MET

The following figures detail pre and post-test results by subject and grade level. Note that although the mathematics objective was met, data show that 78.2 percent of 7th graders and 50.4 percent of 8th grade students scored in the bottom two levels. Reviewing 2010 MAP scores could affirm this finding. The school may want to consider significant changes in practice, such as targeted, in-depth, long-term professional development around mathematics instruction, curriculum, and assessment changes.

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Figure 42

Percent Students Scoring Proficient and Advanced, by Subject and Grade

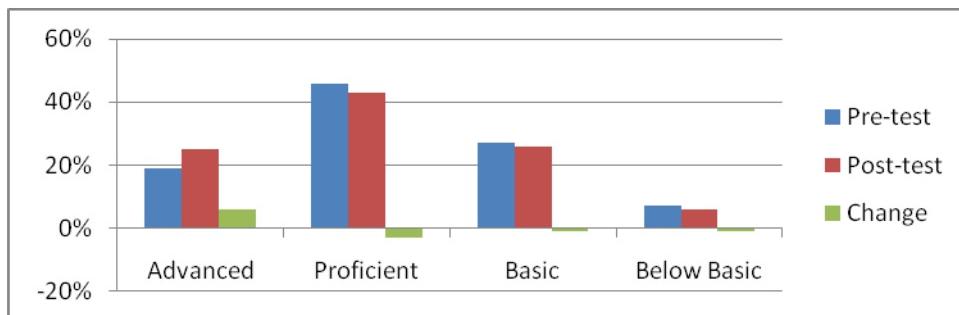


2. Reading: Students will improve their reading proficiently as measured pre and post-testing using the Scholastic Reading Inventory (SRI).

Results: Objective was not met. As shown in Figure 43, at the end of the year, 68 percent of 7th and 8th-grade students tested at Proficient or Advanced on the SRI, compared to 65 percent in the fall. Fewer students scored at Basic or Below Basic by the end of the year (32 percent compared to 34 percent). While differences are small and not sufficient to

meet this objective, students in general were improving their reading skills as measured by the SRI.

Figure 43
7th and 8th Grade Pre-Post Scholastic Reading Inventory Results



3. Technology Literacy: Students in the technology-rich classrooms will meet 80 percent passing score on the [NETS-S aligned] Simple Assessment technology competency evaluation.

Results: Objective was not met. Of the 200 students taking the post-test, 74 percent failed. However, a little over 20 percent of those students' post-test scores were within ten percentage points of the passing score. Also, the 74 percent fail rate is an improvement from 89 percent fail rate on the pre-test.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

4. Technology integration: Participating teachers will increase in the area of “adaptive uses” of technology-based instruction of Grappling’s Technology and Learning Spectrum, as measured via observations, lesson plans, and surveys.

Results: The building administrator observed 93 lessons incorporating one or more types of technology and noted the technology use level exhibited. The levels correspond to the categories in Bernajean Porter's Grappling's Technology and Learning Spectrum: Level 1-Technology Literacy Uses, Level 2-Adapting Uses, and Level 3-Transforming Uses.

Table 44
Teacher Technology Use Levels

Technology Use Levels	Baseline Lessons		Post-Baseline Lessons		Difference
	Number	Percent	Number	Percent	
Not reported	9	25%	0	0%	-25%
1 - Literacy	15	42%	21	37%	-5%
2 - Adapting	12	33%	31	54%	+21%
3 - Transforming	0	0%	5	9%	+9%

In 25 percent of baseline lessons, the technology use level was not reported. Typically, in these lessons, the SMART Board was being use as a whiteboard and student computers were not in use except in instances where classes were being conducted in the computer lab or computer classroom. The data indicates that 63 percent of post-baseline lessons achieved a technology use level 2 or 3. The number of technology use level 2 and 3 lessons occurring in the 2010 EMS grant project months of April and May exceeded that of the post-baseline lessons observed during the months of November 2009 to March 2010.

Participants evaluated their progress in implementing an inquiry-based, technology rich and student-centered classroom by completing the “Hallmarks of an Effective eMINTS Classroom” rubric. Baseline rubrics were completed in the fall of the 09-10 school year;

respective teachers completed summative assessment in May 2010. Domain scores are ranked using the following hallmark categories and corresponding numerical value: (0) Emerging (1) Experimental (2) Transitional (3) Proficient (4) Advanced. This creates a possible score range from 0 to 28 points for each teacher. The total score possible is divided by the five possible Hallmark levels to derive an aggregate score for each teacher. Teacher aggregate scores are summarized below:

Table 45
Teacher Proficiency of Hallmarks of Effective eMINTS Classrooms

Hallmark Levels	Baseline		Post-baseline	
	Number	Percent	Number	Percent
Emerging	3	14%	0	0%
Experimental	13	62%	5	24%
Transitional	5	24%	14	67%
Proficient	0	0%	2	10%
Advanced	0	0%	0	0%

Baseline data indicated that 76 percent of participating EMS grant project teachers rated themselves at an emerging or experimental level, while 24 percent rated themselves at a transitional level. Summative data from May 2010 denotes 24 percent of teachers at an experimental level and 76 percent at a transitional or above level with only 24 percent scoring at an experimental level.

5. Technology literacy: Participating teachers will meet 80 percent passing score on the NETS-aligned Simple Assessment technology competency evaluation.

Results: Teachers fared very well in technology competency – much better than the students – as measured by the Simple Assessment. Of the 20 teachers taking the assessment, 17 passed and the remaining three were within three percentage points of the 80 percent passing score.

Nixa “Eagles Take Flight into 21st Century” – 39 teachers and 830 students, grades 5-6

GOAL: All 5th/6th-grade students will increase academic achievement and become technology literate. Teachers and students will implement inquiry-based teaching and learning methods and strategies that integrate technology and complement existing curriculum in accordance with the district, state, and national standards. Parents and community will gain an understanding and appreciation for the mission of the school district and 21st skills.

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

- 1. Concept mastery: At least 80 percent of fifth/sixth grade students will score proficient on selected communication arts and mathematics GLEs as measured by district-created pre-post assessments. Teachers will administer and score the assessments in August 2009 and March 2010. To be proficient, students must score 80 percent or higher.**

Results: Objective was partially met: 83 percent of the students scored 80 percent or higher on the post assessment for math and 69 percent of the students scored 80 percent or higher on the post assessment for communication arts. The majority of students not achieving 80 percent did indicate growth from the pre to post assessments.

- 2. Technology Literacy: At least 80 percent of fifth/sixth grade students will score proficient on a teacher-created technology proficiency assessment. The assessment will be based on NETS-S standards and a student scoring 80 percent or higher will be considered proficient.**

Results: Objective was not met. It was later decided to use another instrument, in keeping with the district's technology plan that called for using Simple Assessment Technology Proficiency in grades 5-8 to benchmark progress in preparing students for the 8th grade technology proficiency test. Simple assessment was created in response to the call for 8th-grade student technology literacy, and only 2 percent of Main Street students and 3 percent of Inman students passed the assessment. However, 74 percent of Main Street and 77 percent of Inman students showed an increase in their pre and post-test scores – viewed as success due to the difficulty of the test and the growth from the beginning of the year and the end of the year.

TEACHER INSTRUCTIONAL STRATEGIES/TECHNOLOGY INTEGRATION AND TECHNOLOGY PROFICIENCY

3. **Technology integration:** Teachers will submit two technology constructivist lessons indicating understanding of inquiry based instruction with integration of technology, using the eMINTS lesson rubric. Teachers will work collaboratively to evaluate their own and other teacher lesson plans. Feedback will be given and reflections completed to show growth.

Results: This objective was fully met. Three training sessions were used to help teachers write, collaborate, and reflect on the lessons. Teachers submitted constructivist lesson plans and student work samples in compliance with this objective. Principals also observed the use of the constructivist lessons. Feedback was provided by the grant trainers through class visits and online communication.

4. **Technology literacy:** At least 90 percent of participating teachers will pass a district-developed technology proficiency assessment, aligned with NETS-T standards and addressing 21st century skill knowledge, with a score of 80 percent or higher indicating proficiency. Teachers will be given the assessment as a pretest in September and again in March and expected to score at proficient by the post test.

Results: Objective was partially met. In conjunction with the district technology plan and the decision for students to take the Simple Assessment Technology Proficiency test, teachers were given the same assessment. 73 percent of the teachers scored proficient on the assessment. Four of the nine teachers who did not achieve proficiency had increased scores on the posttest; only 3 teachers scored below 70 percent.

Ritenour and Ferguson-Florissant “Digital Storytelling in High School Social Studies” – 10 teachers and 250 students, grades 11-12

GOAL: Improve student achievement in selected high school social studies classrooms in two districts through professional development and collaborative student storytelling.

OBJECTIVE: STUDENT ACADEMIC PERFORMANCE AND TECHNOLOGY LITERACY

1. **Reading comprehension:** Reading comprehension scores of the students participating in the project will increase as measured by the Gates-MacGinitie Reading Test (GMRT), administered to students in the winter and spring of 2010.

Results: Objective was met. Using a quasi-experimental design, digital storytelling students were compared to those who did not participate in the project. Scores are reported in normal curve equivalents, a representation of a norm-referenced test with a mean of 50, where no change in a student's test scores from pre-test to post-test is an indication of normal growth due to the changes in the norm tables, and where increases in NCE scores from pre-test to post-test is an indication of significant improvement. On average, participating students gained 15 to 21 points on the Vocabulary NCE (V-NCE), Comprehension NCE (C-NCE), and the Total NCE (T-NCE). Based on t-tests, all the gains from pre- to post-test are statistically significant.

Table 46
Gates-MacGinitie Pre-Post Assessments

Gates-MacGinitie Test – Overall Gains

Variable	Pre-Test Mean	Post- Test Mean	Gains
Vocabulary NCE	51.21429	66.50862	15.29433
Comprehension NCE	46.14286	67.69828	21.55542
Total NCE	48.58929	67.07759	18.4883

Vocabulary NCE t-test

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	56	51.21	2.14	16.03	46.92	55.51
1	116	66.51	1.66	17.93	63.21	69.81
combined	172	61.53	1.43	18.72	58.71	64.35
diff		-15.29	2.82		-20.86	-9.73
					t = -5.4215	p= .000

Comprehension NCE t-test

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	56	46.14	2.24	16.79	41.65	50.64
1	116	67.70	2.01	21.70	63.71	71.69
combined	172	60.68	1.72	22.58	57.28	64.08
diff		-21.56	3.29		-28.06	-15.05
					t = -6.5448	p=.000

Total NCE t-test

Group	Obs.	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	56	48.59	1.94	14.53	44.70	52.48
1	116	67.08	1.77	19.08	63.57	70.59
combined	172	61.06	1.50	19.71	58.09	64.02
diff		-18.49	2.89		-24.19	-12.79
					t = -6.4053	p= .000

2. **Social studies and digital storytelling skills:** At least 90 percent of participating students will show improvement on teacher-created course assessments, 90 percent of the students will score 80 percent or higher on teacher-created post-tests, and students will produce multi-media projects that score well according to a rubric developed by Bernajean Porter.

Results: Objective was not met. Surprisingly, there was a large negative statistical difference from pre- to post-tests; that is, scores went down for some reason.

- 59 percent of students scored over 80 percent and 76 percent of students scored over 75 percent
- 64 percent of student scores improved, 5 percent stayed the same, and 11 percent of students had scores drop by 9 percent or over.

There were numerous zeros on the final project due to dropouts/absenteeism. This likely added to the high average change from pre- to post-tests: 16.5 percent. Although the analysis might have been run by omitting the zeros, this project and its underlying grant funds prioritize high needs students, and the objective itself was written in a way that such analysis would not have answered the objective. And with 11 percent of projects with

dropped scores, the question may be how differently teachers scored from pre- to post-project. Teacher reflections noted the time-consuming nature of both students and teachers learning technology, which may also have been a factor in this objective.

3. **Technology Literacy:** Students will show a 90 percent increase in improvement in self-reported technology literacy, using pre/post reports, and a 90 percent increase in usage of technology at school and instructional frequency of usage of technology, using assessments developed by Bernajean Porter [and posted online at the Illinois Area 5 Learning Technology Center]. These surveys represent levels of personal skills in tech tools, frequency of use, and where the usage takes place, with a score key of 1=No skills, 2=Beginner, 3=Have Previous Knowledge; 4=Can Teach Others.

Results: Objective was met. Online surveys were taken in September 2009 and May 2010, with the expectation that 100 percent students would score at levels 2, 3 or 4, and 75 percent will score on levels 3 or 4. For all areas, students' literacy skills increased, and all of the increases were statistically significant.

Table 47
Gains in Students' Technology Literacy Skills

Technology Literacy Skill	Pre-Test Mean	Post-Test Mean	Change	T-test	Pr(T > t)	Statistically Significant
Computers	2.88	3.48	0.63	9.75	0.00	✓
Cameras	2.77	3.29	0.53	6.76	0.00	✓
Email for school	2.79	3.28	0.48	6.22	0.00	✓
Video camera	2.63	3.01	0.41	5.09	0.00	✓
PowerPoint	2.77	3.13	0.43	5.17	0.00	✓
Graphing Calc	2.28	2.57	0.31	3.42	0.00	✓
Word	2.78	3.32	0.59	7.33	0.00	✓
Database	1.93	2.21	0.33	3.25	0.00	✓
Spreadsheet	2.03	2.28	0.21	2.13	0.04	✓
Image editing	2.37	2.80	0.42	4.55	0.00	✓
Handhelds	2.89	3.38	0.43	6.02	0.00	✓
Digitizing	2.38	2.69	0.48	5.84	0.00	✓
Searching net	1.96	2.19	0.31	2.92	0.00	✓
Practice software	2.38	2.59	0.22	2.27	0.03	✓
Library Catalog	2.51	2.81	0.2	2.12	0.04	✓
Simulations	2.41	2.74	0.36	3.64	0.00	✓
Mind mapping	1.83	2.20	0.4	3.94	0.00	✓
Scanner	2.32	2.66	0.34	3.60	0.00	✓
Internet searching	2.80	3.29	0.47	6.31	0.00	✓
Web tools	2.53	2.92	0.44	4.76	0.00	✓
Educational Games	2.74	3.20	0.47	5.40	0.00	✓
Video editing	2.31	2.83	0.56	6.36	0.00	✓
Desktop Publishing	2.14	2.45	0.36	3.71	0.00	✓
Audio	2.27	2.70	0.46	5.29	0.00	✓

4. Teaching strategies: Teachers will improve instructional practices by completing lesson plans in a constructivist format with higher depth of knowledge (DOK) levels to improve student learning using Marzano's instructional strategies.

Results: Objective was met substantially. In September 2009 and May 2010, each teacher turned in three exemplary lesson plans, along with the student assignments associated with them. All lessons were evaluated by the verbs used in the assignment (DOK level). The expectation was for all teachers to achieve 80 percent of possible points using a pre-set rubric currently used to assess graduate students, and all teachers except one achieved this goal. Overall, teachers far surpassed an 80 percent average on lesson plans.

**Table 48
Teacher Lesson Plan Scores (Fall 2009 & Spring 2010)**

Pre 1	Pre 2	Pre 3	Post 1	Post 2	Post 3
64.5%	48.0%	52.9%	87.5%	87.0%	86.8%
Pre-lesson average 55.1%			Post-lesson average 87.1%		

Also, teachers were observed using the MSIP 4th Cycle Observation Form looking specifically for Marzano's instructional strategies, use of technology, and DOK levels. The observations took place at the beginning of the school year, at the mid-point of the year, and at the end of the year. The intent was to determine an 80 percent improvement in the number of strategies used from the beginning of the year to the end and a statistically significant increase in DOK levels.

Teachers could use several types of DOK in one lesson (Recall, Skill, Concept, and Extended) and which could have been prevailing as well as highest reached. So each time the 10 teachers were observed, they could have displayed numerous instructional behaviors. As a result, there was no obvious total number to look for in the highest categories. With just 10 teachers, tests for statistical significance are often inaccurate; however, the general pattern sought was a decrease Recall and higher DOK, particularly to Strategic or Extended thinking. This table shows that teachers did change their instruction; most had moved out of the Recall category.

**Table 49
Depth of Knowledge (Fall 2009, Winter 2010, Spring 2010)**

DOK Level	Observation 1 (N=10)		Observation 2 (N=10)		Observation 3 (N=9)		Change
	Prevailing	Highest	Prevailing	Highest	Prevailing	Highest	
Recall	3	5	3	1	1	2	-3
Skill/Concept	5	3	3	4	3	3	0
Strategic Thinking	5	2	2	3	3	3	+1
Extended Thinking	0	0	0	0	0	0	0

The following table depicts the instructional strategies observed and degree of student engagement, where "E" stands for extensive, "M" for moderate, or "S" for slight student engagement. These data indicate that, from September 2009 to May 2010, teachers increased the degree of engagement with their students as their use of "best practice" instructional strategies increased. Also noted is that while teachers did not use problem/project-based learning instruction before this project, they did in the spring which likely contributed to increased student engagement.

Table 50
Instructional Strategies by (Fall 2009, Winter 2010, Spring 2010)

Strategy	Fall 2009			Spring 2010		
	E	M	S	E	M	S
Instructional Strategies						
Advance organizers	2			3	1	
Graphic organizers	1		1		1	
Nonlinguistic representation	2			3		
Problem/project-based learning				4		
Research						
Similarities & differences	1					
Summarizing & note-taking		2	2		2	1
Totals	6	2	3	10	4	1

5. **Technology integration:** Teachers will improve their level of technology integration in their teaching practice as measured by observation using the MSIP 4th Cycle Observation Form looking specifically for Grapplings Spectrum of Technology Integration levels. The spectrum includes Literacy which centers on acquiring and practicing technical skills and where technology is something to learn, Adaptive which involves automating traditional teacher and student roles and where technology is optional, and Transforming which refers to expanding roles and/or products and where technology is essential.

Results: While not all teachers moved up a level, those that did not had actually started with higher levels and are capable of higher-order technology integration. These data are supported by teacher reflections indicating that more time was needed to learn and become comfortable with technology, even with the pervasive belief that the tools were powerful drivers of student engagement and learning. Teachers expect to use the technology tools regularly in the future, but expect to build in time for student technology learning.

Table 51
Teacher Observations of Grapplings Technology Integration Levels

Teacher	Fall 2009 Integration Levels			Spring 2010 Integration Levels		
	Literacy	Adaptive	Transforming	Literacy	Adaptive	Transforming
Teacher 1		✓	✓	✓		
Teacher 2	✓				✓	
Teacher 3	✓	✓				✓
Teacher 4			✓	✓		
Teacher 5	na	na	na		✓	
Teacher 6		✓				✓
Teacher 7		✓		✓		✓
Teacher 8		✓				✓
Teacher 9		✓				✓
Teacher 10		✓		✓	✓	
Totals	2	7	2	4	3	5

Project Future

1. Describe the district's intent to continue the project.

Arcadia Valley "Assess for Success" – The district is committed to improving student achievement through our improved student assessment process and committed to improving instruction and student achievement through the use of technology by teachers and students. Next year we will continue the professional development for all high school teachers to improve

their use of technology for instruction and assessment. The assessment writing process will continue with emphasis on developing valid formative and summative assessments for all classes and using the results to develop remedial opportunities for students. We will also align technology-based learning for remedial lessons. The administrative team, including the instructional coaches, will continue to provide guidance and will track the use of technology in a more formal manner in year two.

Student use of technology will expand from the rapid response systems and the single grade-level project to include additional projects for specific technology based classes. The building-wide technology for students project will be formalized to ensure students achieve the NETS Standards during their high school experience. Students will also use technology to complete remedial lessons as identified through the formative and summative assessment process.

Funding sources will include district professional development funds for teacher training, Title II.A for instructional coaches, Title VI.B funds for additional technology as needed, and district funds for additional assessment training and refinement of the assessments. High Schools That Work funds will be used for professional development and to assist in developing better assessments, analyzing the assessments, and developing remedial opportunities and lessons.

Blue Springs “Writing Classroom Labs”— This grant project facilitated the Phase I of the Writing Lab Classroom project and provided documentation on teacher and student gains that were needed to expand this initiative. With the current financial challenges, full implementation will take longer than originally anticipated; however, the district is moving forward and is committed to continuing the integration of technology into the district’s writing program using the structure developed for this grant. The district is also writing grants to facilitate the purchase of additional software to be used with the netbooks for all of our elementary buildings.

The district purchased additional netbooks for the ten remaining elementary schools to support using technology in the writing process. The technology coach has started visiting buildings to provide training on the netbooks for teachers and students. The instructional coaches are finalizing their 2010-11 schedules to visit each elementary school on a weekly basis to help teachers utilize the new technology plans that include integrating technology across the curriculum and to support teachers with lessons in the classroom. The original cohort of teachers will open their classrooms as “Writing Lab Classrooms” to their grade-level teams as well as teachers from across the district. To kick this effort off, the Writing Lab Classroom teacher cohort members will demonstrate their work and the available technology tools to district peers at the first grade level meeting next fall. Teachers will then be able to visit the cohort teacher’s classrooms to observe lessons, gather ideas, and strengthen their understanding of traits based writing and technology tools. In addition, the lesson plans and projects that have been developed through the Writing Lab Classroom will be disseminated through the district’s online curriculum tool that links high quality lessons to the district curriculum objectives. This will enable teachers to use the writing/technology activities in their own classrooms.

Columbia “Enhancing Technology Instruction” – Participating teachers and the equipment will loop with their students to seventh grade. Teachers will continue to meet monthly as a group to continue honing skills and helping one another integrate technology into the curriculum. The professional development will continue to be led by the middle school media specialist and staff from the district Instructional Technology department. Students will continue to be assessed on technology skills and writing. At the end of the 2010-11 school year the program will again be evaluated in order to make decisions at the district level regarding technology integration, and at the middle school, regarding the best way to spread this learning to all interested teachers.

Eldon “Rigor, Relevance & Relationships” – Our plan is to continue to require professional development in the area of instructional strategies coupled with technology this next school year. This will not only be required for initial participants, but also the rest of the building’s teachers

(FACS, Industrial Arts, PE, etc). Two-hour training sessions will be held once a month, covering topics such as: WebQuest, Advanced Online Learning Environment through Moodle, Web 2.0 Tools, and Interdisciplinary lesson design. (We will review questioning/inquiry-based lessons, Excel, Powerpoint, and Moviemaker to a greater extent. Since our teachers have now been exposed to these we want to use next year to advance their skills in these areas. We will work on effective ways of implementing these to increase student achievement levels and technology skills since those were two of our weaker areas). Some of the topics will be new; others will be revisited to help the teachers enhance their lessons to promote higher-level thinking of our students. The district has agreed to pay a stipend to the participants for this professional development. (Note: due to budget cuts, three of the original participants will not be returning to this district.)

Nixa “Eagles Take Flight into 21st Century” – Due to the success of the grant, the district is building upon the training ideas and implementation. A district-wide Technology Leadership Academy was created to provide training for interested teachers, and teachers applied to be part of the 2010-11 training sessions, with a group of 20-30 teachers serving as the first leaders. Within this model of professional development, teachers who have received training such as the grant teachers and those in the Academy will be eligible for eMINTS training and classrooms and a modified eMINTS classroom as funding becomes available. The integration of three laptops was positive and through the use of NComputing, and the district hopes to provide more classrooms with this approach upon teachers completing the training in the Leadership Academy. The district would like to extend this model to fourth grade and junior high.

Ritenour/Ferguson-Florissant “Digital Storytelling in High School Social Studies”– Both the Ritenour and Ferguson Florissant are committed to continuing the ARRA grant project not only for another year of professional development with Cooperating School Districts (CSD), but also for ongoing student and teacher collaboration across the districts. Ritenour set up a Moodle for that purpose to which both the students and teachers in each district have access. The plan is to have students collaborate about their work creating multimedia topics in the forum, which will be moderated by classroom teachers. Teachers will continue to upload research articles about teaching with 21st century tools in the glossary of the Moodle and will share model lessons from their classrooms. They will upload digital movies and artifacts to create a repository of best practices and model lessons to share with others in the district. In other words, these teachers will become the champions and trainers of others in their respective high schools.

Towards this effort, the teachers at Ritenour High School had a day of sharing with board members and the superintendent about the positive impact the professional development had on changing their teaching practices from teacher-directed to more student- directed which resulted in higher student achievement. Students from other teachers’ classes actually came into grant participating teachers’ rooms to learn how to create digital stories because their friends were so excited about using new equipment to create movies. The teachers at both schools felt that they learned a lot quickly and would like to have another year of professional development and mentoring to practice the new strategies and skills they developed. Teachers also felt that the students helped them to learn the new technology because using technology is so much a part of their world outside of school. Teachers began to have a new respect for student skills and they started to release some control about how students learned the content they were teaching.

Both students and teachers indicated that they wanted to continue to use a constructivist approach to learning and that they wanted and needed more professional development and more equipment to progress in that direction. Their equipment needs are focused around more student computer access in the classroom. Each district had only two 24-computer carts, and teachers requested a computer cart for each classroom, so each student could have access to a computer more often during class time. Teachers also requested thumb drives for each student and digital cameras for each classroom. Teachers liked the coaching from the CSD instructors and want to

have more modeling of teaching with technology in the classroom. Classroom management is different in a technology rich classroom; classroom policies change, behavior issues change and maintenance of equipment becomes an issue to address.

The teachers in a second year of the project would sign an agreement to be accountable for lessons and unit deliverables, as well as collaborating across districts to create classroom guidelines and policies. The selection of teachers will be based on their first-year participation and a short statement explaining their interest in continuing/starting the project. One of the criteria for selection will be teacher's commitment to the time needed to accomplish the activities and deliverables of the program. Second-year activities would be devoted to integrating technology and the state's new information communication and technology literacy (ICTL) standards into lessons and units. We plan to meet five times for a six-hour day during school year 2010-11. Meeting discussions would address appropriate places to find free resources teachers could use to find or create online lessons, such as Discovery Streaming, Thinkfinity and other products to which they have free access. Teachers would create lessons and units using the template they learned in the first year of the project, using the new technology equipment they have been given as well as any new equipment purchased. There will be peer collaboration via a wiki and video-conferencing. Common assessments will be developed to measure the impact new teaching and learning strategies have on improving student achievement. Teachers would attend the February Midwest Education Technology Conference (METC), with some of the teachers presenting their experiences and work products. They will also have an opportunity to enhance their learning from internationally respected technology experts and experienced classroom teachers' breakout sessions. Teachers will continue to meet, reporting on their experiences and sharing lessons and units they have been working on with students for peer review and feedback.

2. Describe any **refinements or changes to improve success** of the project.

Arcadia Valley “Assess for Success” – The only change the district is making is to continue to expand the project throughout the middle school. We found that those teachers from the middle school who teach high school classes and were included in the current project used what they learned in their middle school classes to great success.

Blue Springs “Writing Classroom Labs” – The district has been very pleased with the outcome of this project. The only change made would have been to allocate more funding for the technology coach to enable her to spend more time in the buildings. The district found the teacher cohort was very eager to get started and it was a bit difficult to get all the lessons scheduled as often as teachers wanted them. This was a good problem to have, but it is important for the district to make every effort to meet the professional needs of our teachers.

Columbia “Enhancing Technology Instruction” – This really is a two-year program. Based on training teachers utilizing the strict eMINTS model, EnTICE is a lot to give teachers in one year. Topics covered during the EnTICE training are not covered as thoroughly and deserve discussion and evaluation in order to really become something teachers understand enough to integrate into curriculum design. Additionally, the laptops did not arrive until November, so more integration would have been possible had we had the laptops longer. It takes a long time to establish routines in a sixth-grade classroom and the teachers would have benefited from being able to establish routines with the computers from the beginning rather than having to change gears three months into the school year.

Eldon “Rigor, Relevance & Relationships” – With a second year professional development we want to make sure we are covering the topics that will benefit teachers and students the most. This past year we tried to cover too many topics briefly instead of covering a select few in great detail. Based on our teachers' ability levels, they needed more time to digest, play, and master the concepts, then participate in additional training on how to implement these strategies

effectively and efficiently into their curriculum. Prior to the implementation of this grant, teachers had to sign up on a first come first serve basis for one of two computer labs. Most of the time the labs were full, but for use of Study Island, not technology enhanced projects. Now with the addition of computers to the classroom, we are hoping this next year our scores for student technology mastery will improve. We believe that the lack of equipment and the number of teachers desiring to use technology hindered our students from mastering technology concepts/NETS. As far as the rest of the program, the two-hour professional development sessions were just the right amount of training time. Several of our teachers are willing to attend additional training and already have (without a stipend) because of the success they have seen in their students and the internal desire for the teacher themselves to learn more.

We like the task system setup because it allows our students and staff to have access to their school files/data from home. The disadvantage we have found is that we have several programs (reading) that won't run on this system. We are working on solutions to this problem for the upcoming school year.

Nixa “Eagles Take Flight into 21st Century” – Changes for the future include providing wireless connections, rather than hubs for Internet access. Also, as funding becomes available the district would like to install 6 computers per classroom instead of the grant's 3 computers.

Ritenour/Ferguson-Florissant “Digital Storytelling in High School Social Studies”– The refinements that would be made in the grant are as follows.

- Selection of teachers via written request to determine interest and commitment.
- More hands-on time for the teachers to work with the technology.
- More integration of appropriate technology in lessons and units inspected and coached
- More modeling of lessons where appropriate from CSD as well as teachers teaching teachers
- More widespread celebration of teacher's work throughout the district to other buildings and to Board members.
- Commitment from the technology department to support equipment and get things installed in a timely manner
- More communication with the school Principal about the progress of the project and assignments of schedules to release teachers to meet collaboratively
- More celebration of accomplishments both for teachers and students

3. Provide any **additional comments** (optional) about the project's implementation and outcomes, such as unexpected barriers and/or benefits.

Blue Springs “Writing Classroom Labs”– This project has changed teaching and thinking in each building involved in this grant and has made a significant impact on the rest of the district. The achievement gap in writing that existed between the district as a whole and the targeted schools decreased as students demonstrated their ability to effectively use technology as they practiced and learned the writing process. The enthusiasm among the teachers was especially welcomed as they accepted the challenge to impact student writing using technology. Teachers were surprisingly willing to change their attitude and skills relating to their traditional way of teaching writing when they were given the training, tools and support needed to succeed.

An unexpected benefit was the placement of student teachers in cohort teachers' classrooms. Not only did this help support potential future employees in understanding this initiative and teacher skills expected of new hires, but it also gave student teachers additional skills and experiences they could take to job interviews that might give them a increased chance of getting hired, especially in this challenging employment environment.

Finally, the writing instructional coach developed a presentation proposal for the MITC Technology Conference. The proposal, T3-MakingWriting Extraordinary (Technology, Traits and

Tools), was accepted. This will allow the ideas, protocols, and professional development model to be disseminated to other districts.

Columbia “Enhancing Technology Instruction” – It was great for all reading, writing, and social studies teachers to have time and opportunity to discuss what was happening in their middle school classrooms. Teachers learned a great deal from one another about best practices in teaching; the technology becoming merely a tool to implement these best practices. This is what we hoped to achieve. Teachers utilized the medial specialist as a resource for lesson design and technology support. It is our hope that this will continue in subsequent years. The project allowed the district to see how and why technology should be integrated into classrooms in other schools and other grade levels in terms of what worked and what didn’t and how technology funds should be spent for maximum return.

Nixa “Eagles Take Flight into 21st Century” – The implementation of this grant was very smooth and organized. The teachers and administrators were positive and fully embraced the project. Immediate use of the training concepts was evident in classrooms. Student engagement was high and teacher utilization of the technology was observable. All resources were used and ideas for better use of materials for the next year were discussed and planned during collaboration sessions. The district is pleased to have been part of the ARRA grant project and honored our project was selected to be funded. Money was spent frugally and wisely to benefit the most teachers and students. Time was used wisely for training and teachers were provided with work time to actually put into action the concepts learned.

GLOSSARY OF COMMON ACRONYMS

AQ – Advance questionnaire (data collection for the Missouri School Improvement Program)

ARC – Assessment Resource Center, University of Missouri (external evaluator)

ARRA – American Recovery and Reinvestment Act

CLEs – Course-level expectations

DOK – Depth of knowledge (four levels of learning: recall, skill, concept, and extended)

EETT – Title II, Part D “Enhancing Education through Technology” Program

ELL – English language learner

ETS – Educational technology specialist (trainer, integration facilitator)

eMINTS – enhancing Missouri’s Instructional Networked Teaching Strategies, a program offering a variety of professional development for teachers and other educators

GLE – Grade level expectations

IPI – Instructional Practices Inventory (classroom observation)

ISTE – International Society for Technology in Education (developer of the National Educational Standards)

MAP – Missouri Assessment Program

McREL – Mid-continent Research for Education and Learning

MSIP – Missouri School Improvement Program

NCLB – No Child Left Behind Act

NETS – National Educational Technology Standards (separate standards for Students, Teachers and/or Administrators)

NWREL – Northwest Regional Educational Laboratory

OSEDA – Office of Social and Economic Data Analysis, University of Missouri (external evaluator)

PEN – Project evaluation narratives (Missouri end-of-year report for competitive grants)

PLCs – Professional learning communities

RPDC – Regional professional development centers



MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
INSTRUCTIONAL TECHNOLOGY [TELEPHONE: 573-751-8247]
P.O. BOX 480, JEFFERSON CITY, MISSOURI 65102-0480
TITLE II.D COMPETITIVE GRANT PROGRAM – eMINTS
PROGRAM EVALUATION NARRATIVE

DUE JUNE 30

For Department Use

DATE RECEIVED	DATE REVIEWED	REVIEWER INITIALS
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District Information

NAME OF SCHOOL DISTRICT	COUNTY-DISTRICT CODE
-------------------------	----------------------

CONTACT PERSON NAME AND TITLE

WORK PHONE

SUMMER PHONE

Directions

Submit completed form and narrative responses to the eMINTS Leadership Institute Moodle at <http://campus.emints.org/>.
For program-related questions, contact Instructional Technology staff at 573-751-8247.

Project Information – Building Information

BUILDING TEACHERS AND STUDENTS: Enter total numbers of teachers and students in participating building(s), by grade level

	K-2	3-5	6-8	9-12	Totals
Teachers					
Students					

Project Design – Professional Development Information

eMINTS TEACHERS AND STUDENTS: Enter numbers of teachers and students in project, by grade level and professional development program type

eMINTS Professional Development Program	K-2		3-5		6-8		9-12		Totals	
	T	S	T	S	T	S	T	S	T	S
Comprehensive										
Comp. Replacement										
for All										
Veteran										
Special Education										
Other:										

eMINTS – BUILDING OR DISTRICT-WIDE PARTICIPANTS: Enter number of other participants, by building and program type

eMINTS Program	Elementary	Middle/Junior High	High	District	Totals
for Administrators					
for ETS					
for Techs					
Other:					

Project Benefits

Respond to the following. (Insert responses below each item or attach narrative responses via separate document)

- Provide a brief description (50 words maximum) of how the project is changing or has changed teaching in the building / district.
- Provide a brief description (50 words maximum) of how the project is changing or has changed student learning in the building / district.
- Describe the most successful activities or outcomes of the project.

Project Goal and Objectives

Respond to the following. (Insert responses or attach narrative as separate document)

- PROJECT GOAL STATEMENT(S) – Restate the goal as written in approved application.
- OUTCOME OBJECTIVES – Provide evidence of project's success in meeting objectives related to the following outcome areas.
 - Restate objectives of approved application, note progress toward meeting them (who, did what, when, how well, how measured), and explain any difference, such as why an objective was not met.
 - Student performance and academic achievement
 - Student technology literacy
 - Technology integration into teaching strategies
 - Teacher technology literacy
 - Provide evidence of project's success in meeting other established objectives (e.g., parent involvement, leadership), as appropriate.

Project Future

Respond to the following. (Insert responses or attach narrative as separate document)

- Describe the district's intent to continue the project. Address participants, professional development, specific activities and sources of funding.
- Describe any refinements or changes the building / district would make to improve the success of the project.

Provide any additional comments about the project's implementation and outcome (such as an unexpected barriers and/or benefits).



MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
INSTRUCTIONAL TECHNOLOGY [TELEPHONE: 573-751-8247]
P.O. BOX 480, JEFFERSON CITY, MISSOURI 65102-0480
TITLE II.D COMPETITIVE GRANT PROGRAM – ARRA
PROGRAM EVALUATION NARRATIVE

DUE JUNE 30

For Department Use

DATE RECEIVED	DATE REVIEWED	REVIEWER INITIALS
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District Information

NAME OF SCHOOL DISTRICT	COUNTY-DISTRICT CODE
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CONTACT PERSON NAME AND TITLE

WORK PHONE

SUMMER PHONE

Directions

Submit a completed form and the narrative responses via email attachment to Instructional Technology at: instrtech@dese.mo.gov. Contact Instructional Technology staff 573-751-8247 concerning any questions.

Project Information – Building Information

BUILDING TEACHERS AND STUDENTS: Enter **total numbers of teachers and students in participating building(s)**, by grade level

	K-2	3-5	6-8	9-12	Totals
Teachers					
Students					

Project Design – Professional Development Information

TEACHERS AND STUDENTS: Enter **numbers of teachers and students in project**, by grade level and professional development topic

Enter below each major professional development topic	K-2		3-5		6-8		9-12		Totals	
	T	S	T	S	T	S	T	S	T	S

Project Benefits

Respond to the following. (Insert responses below each item or attach narrative responses via separate document)

4. Provide a brief description (50 words maximum) of how the project is changing or has changed teaching in the building / district.
5. Provide a brief description (50 words maximum) of how the project is changing or has changed student learning in the building / district.
6. Describe the most successful activities or outcomes of the project.

Project Goal and Objectives

Respond to the following. (Insert responses or attach narrative as separate document)

3. PROJECT GOAL STATEMENT(S) – Restate the goal as written in approved application.
4. OUTCOME OBJECTIVES – Provide evidence of project's success in meeting objectives related to the following outcome areas.
 - c) Restate objectives of approved application, note progress toward meeting them (who, did what, when, how well, how measured), and explain any difference, such as why an objective was not met.
 - o Student performance and academic achievement
 - o Student technology literacy
 - o Technology integration into teaching strategies
 - o Teacher technology literacy
 - d) Provide evidence of project's success in meeting other established objectives (e.g., parent involvement, leadership), as appropriate.

Project Future

Respond to the following. (Insert responses or attach narrative as separate document)

3. Describe the district's intent to continue the project. Address participants, professional development, specific activities and sources of funding.
 4. Describe any refinements or changes the building / district would make to improve the success of the project.
- Provide any additional comments about the project's implementation and outcome (such as an unexpected barriers and/or benefits).

COMPETITIVE GRANT REPORTING AND EVALUATION REQUIREMENTS, GUIDANCE

Reporting and Accountability – eMINTS Grants

Following is information detailing the data and/or reports districts must submit as part of their participation in the Title II.D and Title II.D-ARRA Competitive Grant programs. Note that this information (including forms) is posted on the eMINTS Leadership Moodle website, at <http://campus.emints.org>, and the Title II.D website, at <http://dese.mo.gov/divimprove/instrtech/federalfunded/TitleIID/index.htm>. Please feel free to contact Instructional Technology staff with any questions regarding these matters.

- **Project Objectives – due September 15, 2009**

Year 1 and year 2 grant contacts must submit revised FY10 objectives for final approval via the eMINTS Leadership Moodle website. [Refer to the EETT-eMINTS Grant Objectives document posted on the Moodle site for examples of required and optional objectives, their evaluation plans, and how to report progress on the objectives in the end-of-year PEN reporting.]

- **Mid-Year Progress Narrative – due January 31, 2010**

Grant contacts must complete a mid-year progress report, by responding to the questions listed below, and submitting the responses via the eMINTS Leadership Moodle website.

- How has the eMINTS professional development program, including classroom visits, progressed to date?
- How have technical problems/needs been addressed? Are they being resolved in a timely manner?
- What has been the biggest challenge for participants (teachers, administrators, technical contacts) in eMINTS professional development? For non-participants?
- What has been the greatest benefit of the program?

- **Program Evaluation Narrative Report – due June 30, 2010**

Grant contacts must complete an end-of-year report using the Program Evaluation Narrative form (posted on Moodle) and post completed forms and evaluation narratives to the Moodle website. Year 1 grant contacts address the first year of implementation, while Year 2 grant contacts address the second year of implementation AND the overall grant project.

- **Final Report – due Sept. 30, 2010** for Year 2 grants, Sept. 30, 2011 for Year 1 grants

Year 2 grant contacts must submit an extensive project evaluation that addresses both formative and summative assessment of the two-year grant project. The final report should include a one-page abstract, an executive summary, and details about the project's background (educational focus, participants, goals and objectives, activities, etc.), the evaluation study questions and evaluation procedures, and the findings and conclusions. [See Project Final Evaluation guidance materials posted on the Moodle site.] Submit reports via the eMINTS Leadership Moodle website.

Reporting and Accountability – ARRA Grants

Following is information that details the data and/or reports districts are required to submit as part of their participation in the Title II.D ARRA Competitive Grant program. Please feel free to contact the Instructional Technology office with any questions regarding these matters. Also, note that much of this information (including forms) is posted on the DESE Instructional Technology website at: <http://dese.mo.gov/divimprove/instrtech/federalfunded>TitleIID/index.htm>

Mid-Year Progress Narrative – due January 31, 2010

Grant contacts must complete a mid-year progress report, by responding to the questions listed below. Responses should be submitted via email attachment to Instructional Technology at instrtech@dese.mo.gov.

- How has the project's professional development program, including classroom visits, progressed to date?
- How have technical problems/needs been addressed? Are they being resolved in a timely manner?
- What has been the biggest challenge for participants (teachers, administrators, technical contacts) in completing the professional development? For non-participants?
- What has been the greatest benefit of the program?
- Other comments:

Final Expenditure Report – due May 15, 2010

Grant recipients request final payments, using the same ePeGS process, checking the box labeled Final Expenditure Report. Final reports may be submitted when funds have been expended – or by the May 15 deadline – whichever date is first.

Program Evaluation Narrative Report – due June 30, 2010

Grant contacts must complete an end-of-year report, using the Program Evaluation Narrative form. The form can be downloaded from the website. Completed forms should be submitted via email attachment to Instructional Technology at instrtech@dese.mo.gov.

Final Report – due Sept. 30, 2011

A more extensive project evaluation, that addresses both formative and summative assessment, is due upon completion of the grant project. [Examples of study questions and corresponding data collections, and an outline of the report format are posted on the program website.] The final report should include a one-page abstract, an executive summary, background information (educational focus, participants, goals and objectives, activities, etc.), evaluation study questions, evaluation procedures, findings, and conclusions. The report should be submitted via email attachment to Instructional Technology at instrtech@dese.mo.gov.

TITLE II.D COMPETITIVE GRANT EVALUATION GUIDANCE

Suggested Study Questions

- I. How is the district using grant funding?
- II. How are grant-supported initiatives consistent with state and district program goals related to Technology Access (reduce equity issues), Educator Proficiency (effective teaching and tech literacy), and Student Proficiency (academic achievement and tech literacy)?

In what ways and to what extent is the competitive grant supporting:

- initiatives designed to help close the gap between high- and low-poverty schools in students' and teachers' access to and use of technology?
 - Questions: What percentage of classrooms in the district and in the participating school building(s) have adequate technology? (the amount and placement is appropriate and sufficient to support powerful teaching and learning practices)
How is the district addressing and monitoring equitable distribution of resources?
 - Data sources: surveys (Census of Technology, other), needs assessments, inventories
- initiatives designed to help teachers, principals, and school administrators in effective integration of technology into curricula and instruction?
 - Questions: What percentage of teachers in the district and in the participating school building(s) report being prepared to integrate technology into the core subject areas? How is the district addressing and monitoring technology integration?
 - Data sources: curriculum review, administrator observation, teacher surveys, student artifacts
- professional development in the use of educational technology that influences classroom practice as reported by teachers?
 - Question: How is the district monitoring the adequacy and effectiveness of the district professional development programs? (provided to teachers in and outside of the grant project)
 - Data sources: teacher surveys, administrator survey, principal observations

- III. How successful is the grant project implementation in meeting desired goals and objectives?

To what extent does the project improve teaching and learning, with regards to:

- teachers' effective instructional strategies and tech literacy?
 - Question: Are teaching practices improving as a result of the professional development and use of technology? (curriculum integration, educator proficiency in meeting targeted skills levels, instructional strategies grounded in research and emerging best practice, etc.)
 - Data sources: teacher surveys, portfolios, observations
- students' high academic achievement and tech literacy?
 - Question: Is student academic achievement improving where technology is being used effectively? (by grade, curriculum area, student population, technology practices, etc.) Are students demonstrating proficiency in tech literacy? (increased productivity, frequency and use of technologies for research and problem solving in real-world context)
 - Data sources: student surveys, portfolios, local and state assessments

Writing and Reporting Title II.D and ARRA Competitive Objectives

Competitive grants must address **a minimum of four objectives** that detail expected learning outcomes for teachers and students at the conclusion of school years 2009-10 and 2010-11. Additional objectives that focus on others, such as parents or community members, may be provided but are not required. [See below for examples of required and optional objectives.]

Each objective should indicate who will do what, how well, when, per what measurement instrument. Objectives should be stated in measurable terms, be easily measured and communicated, and be reflected in the evaluation. Performance on objectives must be *reportable* for the end-of-year reports due June 30. Student outcomes should NOT rely on Missouri Assessment Program (MAP) results, as these results are typically not released until after the June 30 reporting deadline.

The evaluation plan should describe how attainment of the objective is to be measured and who is primarily responsible for gathering, analyzing, and reporting the data. Helpful questions to ask when writing objectives are, "What do I want to accomplish?" "When should I expect this to be accomplished?" and "How will I be able to tell it has been accomplished?"

REQUIRED TEACHER LEARNING OBJECTIVE: INSTRUCTIONAL STRATEGIES

Example 1

Objective: By May 2010, the 21 participating teachers, grades 3-4, will develop interdisciplinary units that score at the proficient level as measured by a district-created rubric.

Evaluation Plan: Teachers will submit interdisciplinary units that will be evaluated by a district review committee using a scoring rubric that examines the unit's use of research-based instructional strategies, appropriate assessment strategies, degree of rigor (DOK), student engagement, and use of technology/digital resources. The grant contact will review the scores and summarize the findings, determining whether the objective has been met.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:
Teachers' interdisciplinary units that were evaluated by the district review committee that consisted of *[positions of those involved]*. To receive a proficient score, units had to successfully address four of the five scoring criteria. The review indicated that 18 (86%) of the 21 teachers' reached proficiency. *[Explain the scoring criteria for which teachers scored highest and lowest, explaining why you think these scored high or low, and offering any additional anecdotal information as appropriate.]*

Example 2

Objective: By May 2010, participating teachers will achieve a "transition" rating on 80% of the items on a walk-through competed by a district administrator using "look fors" based on [the Instructional Practices Inventory, the Hallmarks of an Effective eMINTS Classroom].

Evaluation Plan: A report detailing the percentage of teachers achieving proficiency ratings on each of the "look for" items will be compiled and submitted by the project contact.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:
The administrator completed the walk-throughs of 8 Comprehensive eMINTS classrooms during the month of April 2010 looking at items appropriate for year 1, second semester. The look fors include *[summarize what the look fors include and the range of scores possible. Then explain whether all 8 teachers observed achieved a "transition" or higher rating on 80% of the items. Note the Hallmark areas for which teachers rated highest and lowest, explain why you think these rated high or low, and offer other anecdotal information as appropriate.]*

REQUIRED TEACHER LEARNING OBJECTIVE: TECHNOLOGY PROFICIENCY/ INTEGRATION

Example (multi-year)

Objective: Participating teachers will show a 50 percent increase in literacy and integration skills by May 2010 **and** an additional 25% by May 2011, as measured by a pre- and post-administration of the [instrument name] survey.

Evaluation Plan: In September and May [the district's external evaluator] will administer the survey to measure teachers' [skill, knowledge, or attitudes]. The [external evaluator] will analyze the pre- and post-survey results to determine whether teachers' results improved on average by at least 50 percent, and report findings to the project contact.

EXAMPLE HOW TO REPORT PROGRESS ON THE JUNE 2010 PROGRAM EVALUATION NARRATIVE:

In September 2009 and May 2010, the 8 participating teachers completed a survey that measured *[explain topics covered, then discuss and compare the findings from each survey administration, noting whether teachers met the overall 50% increase, noting the items/topics where teachers were rated the highest or lowest, and explaining why you think these rated high or low, and offering other anecdotal information as appropriate (such as differences across grade levels, subject areas, teacher credentials or years of service)].*

EXAMPLE HOW TO REPORT PROGRESS ON THE JUNE 2011 PROGRAM EVALUATION NARRATIVE:

In September 2010 and May 2011, the 8 participating teachers completed a survey that measured *[explain the topics covered, then discuss and compare the findings from each survey administration, noting whether teachers met the overall 25% increase, noting the items/topics where teachers were rated the highest or lowest, and explaining why you think these rated high or low, and offering other anecdotal information as appropriate (such as a comparison between the fall Year 1 and spring Year 2 results to measure two-year effects)].*

REQUIRED STUDENT LEARNING OBJECTIVE: ACADEMIC ACHIEVEMENT

Example 1

Objective: 80% of high school students will master 80% of district-identified student learning objectives for each course as measured through district-created, technology-based summative assessments administered at the end of each quarter.

Evaluation Plan: Participating teachers will administer benchmark assessments quarterly. The grant evaluation team will examine the fourth-quarter assessment findings to determine whether, on average, 80% of the students mastered 80% of the learning objectives.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:

Of the 386 participating high school students taking the fourth-quarter benchmark exams, administered in April 2010, 307 (79.53%) students achieved mastery of at least 80% of their learning objectives. *[Describe the topics/skills addressed and how mastery levels were established. Then summarize findings, separating students by grades and/or topics/skills areas as needed. Note the topics/skills where students performed highest or lowest, explaining why you think these rated high or low, and offering other anecdotal information as appropriate.]*

Example 2

Objective: By May 2010, 80% of at-risk students will increase their reading levels by 1.5 years as measured by the Stanford Reading Diagnostic Assessment.

Evaluation Plan: Those students identified as reading at least 2.0 years below grade-level in May 2009 will be reassessed in May 2010 using the Stanford Reading Diagnostic Assessment. The objective will be met if at least 80% of the identified students increase their reading levels by 1.5 years.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:

In September, it was determined there were 40 students at risk of failure (two or more levels below grade level) in the areas of vocabulary, comprehension, and scanning as measured by the Stanford Reading Diagnostic Assessment. Based on the May 2010 administration of the test, 30 students (80%) increased their reading levels by at least one year, 30 increased (75%) by 1.5 years, and 2 students (5%) increased by 2.0 years. *[Note the items/skills areas that had the highest or lowest increases – disaggregating findings by skills areas and grade levels as appropriate. Explain why you think these rated high or low and offer other anecdotal information as appropriate.]*

REQUIRED STUDENT LEARNING OBJECTIVE: TECHNOLOGY LITERACY

Example

Objective: By May 2010, students in the participating classrooms will score at least 75 percent on a district-developed, grade-appropriate student technology standards/indicators assessment that is based on the National Educational Technology Standards for Students.

Evaluation Plan: In April [the district's external evaluator] will administer the assessment instrument to measure students' [describe skills, knowledge, or abilities assessed], analyze the scores to determine whether students on average met the 75 percent target, and report findings to the project contact.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:

200 participating students, grades 3-8, completed assessments that addressed... *[indicate topics/skills, separating students by grades and/or topics/skills areas as needed. Then discuss the findings, noting what was necessary to be considered proficient, and the number and percentage of students reaching the proficiency target. Note the items/skills where students performed highest or lowest, explaining why you think these rated high or low, and offering other anecdotal information as appropriate.]*

OPTIONAL STUDENT BEHAVIOR OBJECTIVES:

Collaboration Skills

Objective: Students, grades 6-8, will learn and apply collaboration skills as measured by a teacher-designed rubric. The expectation is for 75% of students in participating classrooms to score "proficient" by May 2010 and 85% of students to be proficient by 2011.

Evaluation Plan: Grade-level committees will create student learning events that require student collaboration. Student participation will be measured using teacher-developed checklists addressing the five elements of cooperative learning. To be considered proficient, students must successfully complete 75% of the checklist items.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:

In May, students completed the learning events in language arts classes. Each classroom event was videotaped and reviewed by the grade-level committees. Reviewers used a district-developed checklist, consisting of 20 items addressing positive interdependence, face-to-face interaction, individual and group accountability, personal and small-group skills, and group processing. Of the 250 students assessed, 70% of sixth-grade, 72% of seventh-grade, and 80% of eighth-grade students were found to successfully meet at least 15 of the 20 checklist items. *[Note the items/skills where students performed highest or lowest, explaining why you think these rated high/low and why they scored differed by grade level, and offering other anecdotal information as appropriate.]*

Student Discipline

Objective: The number of discipline referrals for students in participating classrooms will decrease by 25% by May 2010 of the project and by 50% by May 2011.

Evaluation Plan: Grant contact will keep records and document student behaviors of students before and during project participation. A summary of the pre-post findings for each year of the project will be submitted in the end-of-year Project Evaluation Reports.

EXAMPLE HOW TO REPORT PROGRESS FOR PROGRAM EVALUATION NARRATIVE (PEN) IN JUNE:

Student behavior of 4th grade students enrolled in the participating teachers' classrooms was compared to behavior for the same students as recorded last year as 3rd graders. The 178 students had a total of 42 referrals for discipline issues in 2009-10 and a total of 138 referrals for discipline issues in 2008-09, indicating a 70% reduction... *[Offer any insights or anecdotal information to help explain changes, if any, in student behaviors.]*

Title II.D Project Evaluation Matrix (Sample)

Objective 1. Improved student academic achievement and technology literacy

	Year 1 (by June 30)		Year 2 (by June 30)		End-of-Project (by September 30)	
	What data and how measured?	By whom?	What data and how measured?	By whom?	What data and how measured?	By whom?
1.A. Percentage of students [grades 4-8] scoring in the top two levels of MAP will increase by 5 percent... [list specific subject area(s)] by the end of the project	Not applicable for Year 1		<ul style="list-style-type: none"> same students compared to selves? eMINTS and non-eMINTS (within or across LEAs)? grade level data in base year to project reporting year data? 	Depends on what and how measured	<ul style="list-style-type: none"> Narrative and/or charts & graphs? By grade level and subject area? Disaggregated by any student subgroups (SES, IEP, other special status)? 	<ul style="list-style-type: none"> Who collects data? Who analyzes data? Who reports findings & recommendations?
1.B. Percentage of students [grades 4-8] will increase performance on [STAR, Rigby Benchmark, SRI, or local/common assessment] by at least 5% each year of project.	<ul style="list-style-type: none"> What tests be administered in all grade levels? Reportable by June 30? Is 5% expected for all tests, grades, and students? 	<ul style="list-style-type: none"> Who owns and collects data? Who analyzes data? Who will report findings and make recommendations to drive instructional changes for Year 2? 	<p>Repeat at end of Year 2</p> <ul style="list-style-type: none"> Same students; same tests? Grade level comparisons? 	Depends on what and how measured	<ul style="list-style-type: none"> Narrative and/or charts & graphs? By grade level and subject area? Disaggregated by any student subgroups (SES, IEP, other special status)? 	<ul style="list-style-type: none"> Who collects data? Who analyzes data? Who reports findings & recommendations?
1.C. Students [grades 4-8] will report at least an 80% increase in technology literacy skills as measured by a pre- and post-project survey.	<ul style="list-style-type: none"> When administered to set baseline? What instrument? 	<ul style="list-style-type: none"> Who administers and/or scores? 	<p>Repeat at end of Year 2</p> <ul style="list-style-type: none"> Same students; same tests? Grade level comparisons? 	Depends on what and how measured	<ul style="list-style-type: none"> Narrative and/or charts & graphs? By grade level and subject area? Disaggregated by any student subgroups (SES, IEP, other special status)? 	<ul style="list-style-type: none"> Who collects data? Who analyzes data? Who reports findings & recommendations?
1.D. At least 80% of students [grades 4-8] will demonstrate improved proficiency on the NETS*S indicators, each year of project, as measured by project-based student work.	<ul style="list-style-type: none"> When administered to set baseline at end of Year 1 What project(s)? What scoring instrument? 	<ul style="list-style-type: none"> Who administers and/or scores? 	<p>repeat at end of Year 2</p> <ul style="list-style-type: none"> Same students; same project(s)? Grade level comparisons? 	Depends on what and how measured	<ul style="list-style-type: none"> Narrative and/or charts & graphs? By grade level and subject area? Disaggregated by any student subgroups (SES, IEP, other special status)? 	<ul style="list-style-type: none"> Who collects data? Who analyzes data? Who reports findings & recommendations?
1.E. [Other student]						

Objective 2. Improved teacher technology literacy and integrated teaching strategies

	Year 1 (by June 30)		Year 2 (by June 30)		End-of-Project (by September 30)	
	What data and how measured?	By whom?	What data and how measured?	By whom?	What data and how measured?	By whom?
2.A. Teachers – in Comprehensive and eMINTS4All – will develop and implement constructivist lesson plans – 2 in Year 1 and 4 in Year 2 – that meet [eMINTS, district, other] standards [explain criteria].	<ul style="list-style-type: none"> • How will lessons be collected? • What scoring instrument will be used? • Any baseline observation information? • Any other corroborating information? 	<ul style="list-style-type: none"> • Who scores? • Who conducts observations? 	Repeat for Year 2 – same questions	Depends on what and how measured	<ul style="list-style-type: none"> • Narrative and/or charts & graphs? • Disaggregated by any teacher subgroups (PD type, grade or subject level)? 	<ul style="list-style-type: none"> • Who collects data? • Who analyzes data? • Who reports findings & recommendations?
2.B. Teachers – in Comprehensive and eMINTS4All – will report at least an 80% increase in technology integration and enhanced instructional and assessment strategies, as measured by a pre- and post-project survey.	<ul style="list-style-type: none"> • When taken (baseline data)? • What instrument(s)? • Individual surveys only or use of focus groups, group interviews? • Any other corroborating information? 	<ul style="list-style-type: none"> • Who administers and/or scores? • Who handles other (corroboration) information? When? 	repeat at end of Year 2 <ul style="list-style-type: none"> • Same teachers; same surveys? 	Depends on what and how measured	<ul style="list-style-type: none"> • Narrative and/or charts & graphs? • Disaggregated by any teacher subgroups (PD type, grade or subject level)? 	<ul style="list-style-type: none"> • Who collects data? • Who analyzes data? • Who reports findings & recommendations?
2.C. [Other teacher]						

Objective 3. Optional (e.g., Improved parent involvement)

	Year 1 (by June 30)		Year 2 (by June 30)		End-of-Project (by September 30)	
	What data and how measured?	By whom?	What data and how measured?	By whom?	What data and how measured?	By whom?
3.A.						

Final Report Format

- I. Summary
 - a. Abstract (one-page)
 - b. Executive Summary
- II. Background Information
 - a. Problem(s) or educational need(s) addressed by project
 - b. Project participants (those receiving intervention and those in comparison or control group, if appropriate)
 - c. Project's goal(s) and objectives
 - d. Activities and components
 - e. Building(s) and planned longevity of the project
 - f. Resources used to implement the project
 - g. Project's expected measurable outcomes
 - h. Constraints
- III. Evaluation study questions
 - a. Questions addressed by study
 - b. Questions that could not be addressed by the study
- IV. Evaluation Procedures
 - a. Sample
 - i. Selection procedures
 - ii. Representativeness of the sample
 - iii. Use of comparison or control groups, if applicable
 - b. Data Collection
 - i. Methods
 - ii. Instruments
 - c. Summary
 - i. Evaluation questions
 - ii. Variables
 - iii. Data gathering approaches
 - iv. Respondents
- V. Findings
 - a. Results of the analyses organized by study question
 - i. Implementation questions
 - ii. Impact (outcome) questions
- VI. Conclusions
 - a. Broad-based, summative statements
 - b. Recommendations

eMINTS TEACHER TECHNOLOGY LITERACY SKILL SURVEY REPORT

FY09 eMINTS Teacher Technology Literacy Skill Survey

Findings and Analysis

2008-09 to 2009-10 Cohort

eMINTS National Center

University of Missouri, Columbia

July 16, 2010



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FY09 eMINTS Teacher Technology Literacy Skill Survey

Introduction

The Teacher Technology Literacy Skill Survey (TTLSS) was completed by eMINTS Comprehensive and eMINTS4All teachers as they started Year 1 of their professional development program in August of 2008. The TTLSS was repeated with the same groups of teachers in May 2010 as they completed Year 2 of eMINTS professional development.

The survey was created by eMINTS instructional staff and based on the scope and sequence of skills taught in both Year 1 and Year 2 of the program. The Year 1 (Appendix A) and Year 2 (Appendix B) surveys were administered online using "Survey Monkey." The Year 1 Comprehensive professional development schedule used during the 2008-2009 school year is included in Appendix D. The Year 2 Comprehensive professional development schedule used during the 2009-2010 school year is Appendix E. Additional appendices show disaggregated data for each of the survey items, the professional development schedule for eMINTS4ALL, an alignment of the survey questions to program modules, and response means for teachers from both programs.

Methods

This yearly report separates the cohort findings into eMINTS-4All and eMINTS-Comprehensive Professional Development (eMINTS-CPD). With substantial programmatic differences, a separate accounting for each track is logical and appropriate. eMINTS-CPD is presented first followed by eMINTS-4All. Both eMINTS-CPD and eMINTS-4All are two-year programs.

The purpose of the surveys was to determine teachers' self-reported levels of confidence in their technology skills as taught through the eMINTS professional development programs. The programmatic eMINTS evaluation is supported by the review of teacher portfolios submitted during the second year of training, classroom visits, and analysis of the Missouri Assessment Program (MAP) data from students in eMINTS and eMINTS4All classrooms. For more information on these analyses, please see the eMINTS website at:

<http://www.emints.org/evaluation>.

The Likert type response scale for each survey item is described below:

1. This is still totally new to me. I have no skills in this area.
2. I attended professional development about this, but have never done it with my students or on my own.
3. I have a good understanding of this and have used it on my own and/or with my students at least three times so far this year.
4. I really understand this and use it on my own and/or with my students on a daily or weekly basis.
5. I know this so well that I can teach other teachers to use it.

Question 3 on the TTLSS was modified to eliminate ambiguity about the time frame in the Spring '08 survey to read, "I have a good understanding of this and have used it on my own and/or with my students at least three times in the past year."

Results

eMINTS-CPD

Training and portfolio

Four full days of in-service contact and one hundred contact hours are completed in Year 1 of eMINTS-CPD. In Year 2 seventy-five contact hours and 2 full days of in-service are completed in eMINTS-CPD. To demonstrate a change in teaching a teacher portfolio is submitted by each participant before the end of the Year 2. Portfolio components for eMINTS-CPD include: creating a classroom website, writing and teaching a constructivist lesson plan, and writing and teaching a WebQuest. Student artifacts are submitted for the WebQuest and constructivist lesson plan. Thirty-seven modules are covered in eMINTS-CPD program over two years.

Overall Results – eMINTS-CPD

The survey was completed by 90 eMINTS-CPD teachers during both Year 1 and Year 2. Survey data was tracked by teacher to ensure the same population was compared with the pre and post surveys. An average score of 2.92 for all items was achieved on the pre-survey compared with an average score of 4.33 on the post-survey, an increase of 1.41.

Analysis of Topic Items Achieving Desired Average Mean Score on Pre-survey

The desired average end score for all teachers on each item was established at 3.5. Table 1 below lists the items scoring above this level prior to teachers entering the eMINTS program. Teachers scored at or above this level on eight of the survey items prior to entering the program. The average score on these items from the pre-survey was 4.27 as compared to the post-survey at 4.83, an increase of 0.56. The eMINTS program provided improvement in self-reported skill level with skills teachers were familiar with when entering the program.

Table 1: eMINTS-CPD Pre-survey Topic Items Achieving Desired Average Mean Score

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Email – Send email without attachments	4.76	4.98
Email – Send email with attachments	4.54	4.94
File management – move and delete files, set up folders	4.27	4.9
Create and save documents that include clip art	4.23	4.83
Format text including bullets, font, borders, cut, copy and paste	4.44	4.89
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	3.86	4.52
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	3.72	4.71
Take photos with a digital camera	4.31	4.86
Average of Eight Items	4.27	4.83

Analysis of Topic Items Not Achieving Desired Mean Score on Pre-survey

The self-reported skill level for 23 of the survey items was below the desired 3.5 mean for teachers first entering the program. The data show that teachers rated themselves well above the desired 3.5 level after the second year of eMINTS-CPD in all but two items, both dealing with concept mapping software. Improvement was noted for all topics. The pre-survey average for these items was 2.44 as compared with 4.15 for the post-survey responses, an increase in the mean of 1.71.

Table 2: eMINTS-CPD Pre-survey Topic Items Not Achieving Desired Mean Score

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Use online tools to save sites	2.84	4.19
SMART Board/Interactive Whiteboard – presentation tool	3.04	4.66
SMART Board/Interactive Whiteboard – collaboration tool	2.86	4.57
SMART Board/Interactive Whiteboard – demonstration tool	2.78	4.51
SMART Board/Interactive Whiteboard – advanced features	2.4	4.16
Microsoft Word/Word processing – create and use templates	3.42	4.32
Publish presentations to the Web	1.94	3.92
Import videos/charts into presentations	2.58	4.11
Digital photos – use photo-editing software	3.07	4.12
Classroom Website – plan and develop	2.38	4.62
Classroom Website – upload Classroom Website	2.10	4.42
Classroom Website – publish and update regularly	2.09	4.53
Inspiration/Concept mapping tool – basic diagrams	2.38	4.23
Inspiration/Concept mapping tool – use and format symbol libraries	1.93	3.46
Inspiration/Concept mapping tool – publish diagrams to Web and other presentation software	1.74	3.44
Revise Existing WebQuest	1.57	4.19
Create an original WebQuest	1.57	4.34
Set up basic spreadsheet and graphing	2.96	4.08
Spreadsheet application requiring formulas	2.57	3.73
Put raw data into spreadsheet	2.62	3.78

Scanner – basic uses	3.16	4.32
Participate in an online project	2.58	4.04
Create and implement an online project	1.87	3.76
Average of 23 Items	2.44	4.15

eMINTS-4All

Training and portfolio

One full day of in-service contact and 44 contact hours are completed in Year 1 of eMINTS-4All. In Year 2, forty contact hours are completed. Portfolio components for eMINTS-4All include writing and teaching a constructivist lesson plan. Student artifacts are submitted for the constructivist lesson. Nineteen modules are covered in eMINTS-4All programs with an additional three modules identified as optional.

eMINTS-4All classrooms are intended for schools with official eMINTS-CPD classrooms. In many cases eMINTS-4All classrooms are in grades above or below eMINTS-CPD classrooms. eMINTS-4All allows students to build, or continue to learn, the cognitive, social and technology skills as teachers learn a subset of the eMINTS-CPD skills.

Overall Results – eMINTS4All

The survey was completed by 42 eMINTS-CPD teachers during both Year 1 and Year 2. Survey data was tracked by teacher to ensure the same population was compared with the pre and post surveys. An average score of 2.78 for all items was achieved on the pre-survey compared with an average score of 3.96 on the post-survey, an increase of 1.18.

Analysis of Topic Items Achieving Desired Average Mean Score on Pre-survey

The desired average end score for all teachers on each item was established at 3.0. Table 1 lists the items scoring above this level prior to teachers entering the eMINTS program. Teachers scored at or above this level on ten of the survey items prior to entering the program. The average score on these items from the pre-survey was 3.98 as compared to the post-survey at 4.54, an increase of 0.56. The eMINTS program provided improvement in self-reported skill level with skills teachers were familiar with when entering the program.

Table 3: eMINTS-4All Pre-survey Topic Items Achieving Desired Average Mean Score

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Email – Send email without attachments	4.67	4.88
Email – Send email with attachments	4.43	4.83
File management – move and delete files, set up folders	4.05	4.64
Create and save documents that include clip art	4.26	4.62
Format text including bullets, font, borders, cut, copy and paste	4.31	4.67
Create and use templates for documents	3.29	4.07
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	3.74	4.48
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	3.69	4.40
Take photos with a digital camera	4.21	4.55
Use scanner for basic applications	3.17	4.21
Average of Ten Items	3.98	4.54

Analysis of Topic Items Not Achieving Desired Mean Score on Pre-survey

The self-reported skill level for 21 of the survey items was below the desired 3.0 mean for teachers first entering the program. The data show that teachers rated themselves well above the desired 3.0 level after the second year of eMINTS-4ALL in all but one item, creating a WebQuest. This was a topic not covered during eMINTS4All professional development (see section below). Improvement was noted for all topics. The pre-survey average for these items was 2.20 as compared with 3.68 for the post-survey responses, an increase in the mean of 1.48.

Table 4: eMINTS-CPD Pre-survey Topic Items Not Achieving Desired Mean Score

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Use online tools to save sites	2.55	3.62
SMART Board/Interactive Whiteboard – presentation tool	2.81	4.62
SMART Board/Interactive Whiteboard – collaboration tool	2.4	4.38
SMART Board/Interactive Whiteboard – demonstration tool	2.52	4.4
SMART Board/Interactive Whiteboard – advanced features	2.02	3.74
Publish presentations to the Web	1.98	3.48

Import videos/charts into presentations	2.38	3.62
Digital photos – use photo-editing software	2.67	3.76
Classroom Website – plan and develop	2.17	3.90
Classroom Website – upload Classroom Website	1.93	3.76
Classroom Website – publish and update regularly	2.00	3.67
Inspiration/Concept mapping tool – basic diagrams	2.1	4.00
Inspiration/Concept mapping tool – use and format symbol libraries	1.88	3.36
Inspiration/Concept mapping tool – publish diagrams to Web and other presentation software	1.6	3.17
Revise Existing WebQuest	1.71	3.07
Create an original WebQuest	1.71	2.9
Set up basic spreadsheet and graphing	2.9	3.9
Spreadsheet application requiring formulas	2.74	3.54
Put raw data into spreadsheet	2.24	3.57
Participate in an online project	2.31	3.52
Create and implement an online project	1.67	3.31
Average of 21 Items	2.20	3.68

Comparison of Topics Covered and Not Covered in eMINTS-4All Professional Development

Eight topics listed in the Technology Literacy Survey are not addressed during eMINTS4All professional development. As expected, topics covered during eMINTS professional development showed a greater increase (1.33) when compared to those not covered (0.78). Improvement in areas not covered might be contributed to transfer of skills. Some of the skills not covered are very similar to others which are, possibly only the software varying. Another possible source for the improved scores is the learning community in eMINTS schools. Research has shown collegial networks develop as teachers share with one another the success of innovations when implementing technology. This sharing is encouraged in both eMINTS-CPD and eMINTS-4All, especially in school-wide implementations.

Table 5: eMINTS-4All Topics Covered in Professional Development

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Email – Send email without attachments	4.67	4.88
Email – Send email with attachments	4.43	4.83
File management – move and delete files, set up folders	4.05	4.64
Use online tools to save sites	2.55	3.62
SMART Board/Interactive Whiteboard – presentation tool	2.81	4.62
SMART Board/Interactive Whiteboard – collaboration tool	2.4	4.38
SMART Board/Interactive Whiteboard – demonstration tool	2.52	4.4
SMART Board/Interactive Whiteboard – advanced features	2.02	3.74
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	3.74	4.48
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	3.69	4.40
Publish presentations to the Web	1.98	3.48
Import videos/charts into presentations	2.38	3.62
Classroom Website – plan and develop	2.17	3.90
Classroom Website – upload Classroom Website	1.93	3.76
Classroom Website – publish and update regularly	2.00	3.67
Inspiration/Concept mapping tool – basic diagrams	2.1	4.00
Inspiration/Concept mapping tool – use and format symbol libraries	1.88	3.36
Inspiration/Concept mapping tool – publish diagrams to Web and other presentation software	1.6	3.17
Participate in an online project	2.31	3.52
Create and implement an online project	1.67	3.31
Average of 21 Items	2.67	4.0

Table 6: eMINTS-4All Topics Not Covered

Topic	Pre-survey Fall 2008	Post-survey Spring 2010
Microsoft Word/Word processing – create and save documents	4.26	4.62
Microsoft Word/Word processing – format text	4.31	4.67
Microsoft Word/Word processing – create and use templates	3.29	4.07
Digital photos – take photos with a digital camera*	4.21	4.55
Digital photos – use photo-editing software	2.67	3.76
Revise Existing WebQuest	1.71	3.07
WebQuest – write an original WebQuest	1.71	2.90
Average	3.17	3.95

Optional Modules in eMINTS-4All Training Results

Three modules are listed as optional for eMINTS-4All participants. The alignment with the objectives from the modules and the TTLS questions are shown in Table 5. The average increase in these topics was 1.78. It is unknown how many teachers actually participated in a session with these optional modules.

Table 7: eMINTS-4All Topics From Optional Modules

Topic	Year 1 Score	Year 2 Score
Set up spreadsheet and basic graphing	2.9	3.9
Set up grade book or other application requiring formulas	2.74	3.54
Put raw data into spreadsheet or published spreadsheet on Web	2.24	3.57
Average 3 Optional Topics	2.63	3.78

Recommendations

1. Pre-survey data will be used to determine if changes might be made to the technology skills addressed during eMINTS training. Teachers are entering the training with some skills in place that might be removed from eMINTS PD content, leaving room for the introduction or reinforcement of other skills.
2. The survey results will be shared with eMINTS instructional staff so they can continue appropriate revisions to improve eMINTS-CPD materials and delivery techniques (including classroom visits) to insure important technology literacy skills in the eMINTS-CPD program are acquired by participating teachers. A comprehensive revision of modules is scheduled for the upcoming year bringing an opportunity to address low scoring areas. For example, the use of concept mapping software could be incorporated into additional modules to supplement learning in this area.
3. eMINTS staff will review the survey items with the intent of becoming more aligned with emerging technologies such as video production, podcasting, and web 2.0 tools that are currently part of the eMINTS professional development content.
4. eMINTS staff will consider the addition of information literacy skill items to the survey. This skill has become a critical one for teachers in the information age and data about how eMINTS is enhancing these skills would be useful for program evaluation and revision.

Item Analysis Year 1 and Year 2

The remainder of the report includes item analysis data for Year 1 and Year 2 surveys and appendices disaggregating the TTLSS data.

Results by Item – eMINTS-CPD Pre-Survey (Fall 2008)

Answer Options	1	2	3	4	5	Rating Average	Response Count
Send e-mail without attachments	0	2	2	12	74	4.76	90
Send e-mail with attachments	1	3	7	14	65	4.54	90
File management-move and delete files, set up folders	2	4	14	18	52	4.27	90
Use online tools to save sites (for example, Backflip)	27	11	18	17	17	2.84	90
Use interactive whiteboard (for example, SMART Board) as a presentation tool to present information and ideas	24	9	12	29	16	3.04	90
Use interactive whiteboard as a tool for student collaboration and/or brainstorming	30	7	13	26	14	2.86	90
Use interactive whiteboard as a tool for demonstrating skills (i.e., graphing)	30	13	8	25	14	2.78	90
Use interactive whiteboard advanced features such as print capture, floating toolbar, etc.	36	17	13	13	11	2.40	90
Create and save documents that include clip art	6	3	8	20	53	4.23	90
Format text including bullets, font, borders, cut, copy and paste	3	3	4	21	59	4.44	90
Create and use templates for documents	13	8	26	14	29	3.42	90
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	5	11	15	19	40	3.87	90
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	11	6	17	19	40	3.87	90
Publish presentations to the Web	47	18	13	7	5	1.94	90
Import videos/charts into presentations	27	15	25	15	8	2.58	90
Take photos with a digital camera	4	4	9	16	57	4.31	90
Use photo-editing software	17	14	21	22	16	3.07	90
Plan, organize, structure and collect materials for a classroom website	32	24	13	10	11	2.38	90
Upload classroom website	43	21	8	10	8	2.10	90
Update website regularly	44	22	6	8	10	2.09	90
Create basic diagrams using concept mapping tool (for example, Inspiration or SMART Ideas)	35	18	14	14	9	2.38	90
Use symbol libraries and format symbols	48	14	17	8	3	1.93	90
Publish diagrams to web, use in PowerPoint files, create symbol libraries	57	12	11	7	3	1.74	90
Revise an existing WebQuest	66	10	6	3	5	1.57	90
Create an original WebQuest	64	12	8	1	5	1.57	90
Set up spreadsheet and basic graphing (for	18	21	17	15	19	2.96	90

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example, Microsoft Excel)							
Set up grade book or other application requiring spreadsheet formulas	26	20	21	13	10	2.57	90
Put raw data into spreadsheet or published spreadsheet on web	30	12	19	20	9	2.62	90
Use scanner for basic applications	18	16	12	22	22	3.16	90
Participate in an online project	30	17	15	17	11	2.58	90
Create and implement an online project	52	17	9	5	7	1.87	90

Results by Item – eMINTS-CPD Post-Survey (Spring 2009)

Please mark the number that best indicates your CURRENT level of knowledge and understanding of the technology skills listed.</p>

Answer Options	1	2	3	4	5	Rating Average	Response Count
Send e-mail without attachments	0	0	1	0	89	4.98	90
Send e-mail with attachments	0	0	1	3	86	4.95	90
File management-move and delete files, set up folders	0	0	1	7	82	4.90	90
Use online tools to save sites (for example, Backflip)	1	7	15	18	49	4.19	90
Use interactive whiteboard (for example, SMART Board) as a presentation tool to present information and ideas	0	0	3	25	62	4.66	90
Use interactive whiteboard as a tool for student collaboration and/or brainstorming	0	0	8	23	59	4.57	90
Use interactive whiteboard as a tool for demonstrating skills (i.e., graphing)	0	0	6	32	52	4.51	90
Use interactive whiteboard advanced features such as print capture, floating toolbar, etc.	0	2	24	22	42	4.16	90
Create and save documents that include clip art	0	0	3	9	78	4.83	90
Format text including bullets, font, borders, cut, copy and paste	0	0	2	6	82	4.89	90
Create and use templates for documents	0	3	12	28	47	4.32	90
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	2	5	6	8	69	4.52	90
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	0	0	7	12	71	4.71	90
Publish presentations to the Web	1	9	21	24	35	3.92	90
Import videos/charts into presentations	1	5	14	33	37	4.11	90
Take photos with a digital camera	0	0	4	5	81	4.86	90
Use photo-editing software	0	4	16	35	35	4.12	90
Plan, organize, structure and collect materials for a classroom website	0	0	3	28	59	4.62	90
Upload classroom website	1	3	8	23	55	4.42	90
Update website regularly	0	2	6	24	58	4.53	90
Create basic diagrams using concept mapping tool (for example, Inspiration or SMART Ideas)	0	4	11	35	40	4.23	90
Use symbol libraries and format symbols	7	14	19	31	19	3.46	90
Publish diagrams to web, use in PowerPoint files, create symbol libraries	5	16	22	28	19	3.44	90
Revise an existing WebQuest	0	4	16	29	41	4.19	90

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Create an original WebQuest	0	2	9	35	44	4.34	90
Set up spreadsheet and basic graphing (for example, Microsoft Excel)	0	5	15	38	32	4.08	90
Set up grade book or other application requiring spreadsheet formulas	2	11	19	35	23	3.73	90
Put raw data into spreadsheet or published spreadsheet on web	3	9	21	29	28	3.78	90
Use scanner for basic applications	0	9	7	20	54	4.32	90
Participate in an online project	2	11	10	25	42	4.04	90
Create and implement an online project	3	10	23	24	30	3.76	90

Results by Item – eMINTS-4All Pre-Survey (Fall 2008)

Please mark the number that best indicates your CURRENT level of knowledge and understanding of the technology skills listed.</p>							
Answer Options	1	2	3	4	5	Rating Average	Response Count
Send e-mail without attachments	2	1	0	3	36	4.67	42
Send e-mail with attachments	4	0	1	6	31	4.43	42
File management-move and delete files, set up folders	4	3	3	9	23	4.05	42
Use online tools to save sites (for example, Backflip)	15	6	9	7	5	2.55	42
Use interactive whiteboard (for example, SMART Board) as a presentation tool to present information and ideas	13	7	6	7	9	2.81	42
Use interactive whiteboard as a tool for student collaboration and/or brainstorming	17	7	5	10	3	2.40	42
Use interactive whiteboard as a tool for demonstrating skills (i.e., graphing)	16	7	5	9	5	2.52	42
Use interactive whiteboard advanced features such as print capture, floating toolbar, etc.	21	8	7	3	3	2.02	42
Create and save documents that include clip art	5	0	2	7	28	4.26	42
Format text including bullets, font, borders, cut, copy and paste	4	1	2	6	29	4.31	42
Create and use templates for documents	6	5	12	9	10	3.29	42
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	3	7	4	12	16	3.74	42
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	7	2	4	13	16	3.69	42
Publish presentations to the Web	22	6	10	1	3	1.98	42
Import videos/charts into presentations	17	7	7	7	4	2.38	42
Take photos with a digital camera	2	3	2	12	23	4.21	42
Use photo-editing software	14	5	9	9	5	2.67	42
Plan, organize, structure and collect materials for a classroom website	19	12	3	1	7	2.17	42
Upload classroom website	25	6	4	3	4	1.93	42
Update website regularly	24	7	4	1	6	2.00	42
Create basic diagrams using concept mapping tool (for example, Inspiration or SMART Ideas)	18	9	9	5	1	2.10	42

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Use symbol libraries and format symbols	23	9	4	4	2	1.88	42
Publish diagrams to web, use in PowerPoint files, create symbol libraries	28	7	5	0	2	1.60	42
Revise an existing WebQuest	25	8	6	2	1	1.71	42
Create an original WebQuest	26	7	5	3	1	1.71	42
Set up spreadsheet and basic graphing (for example, Microsoft Excel)	12	4	10	8	8	2.90	42
Set up grade book or other application requiring spreadsheet formulas	13	7	6	10	6	2.74	42
Put raw data into spreadsheet or published spreadsheet on web	16	10	9	4	3	2.24	42
Use scanner for basic applications	10	5	5	12	10	3.17	42
Participate in an online project	20	4	8	5	5	2.31	42
Create and implement an online project	30	4	3	2	3	1.67	42

Results by Item – eMINTS-4All Post-survey (Spring 2010)

Please mark the number that best indicates your CURRENT level of knowledge and understanding of the technology skills listed.							
Answer Options	1	2	3	4	5	Rating Average	Response Count
Send e-mail without attachments	1	0	0	1	40	4.89	42
Send e-mail with attachments	1	0	1	1	39	4.83	42
File management-move and delete files, set up folders	1	0	3	5	33	4.64	42
Use online tools to save sites (for example, Backflip)	2	9	6	11	14	3.62	42
Use interactive whiteboard (for example, SMART Board) as a presentation tool to present information and ideas	1	0	1	10	30	4.62	42
Use interactive whiteboard as a tool for student collaboration and/or brainstorming	0	1	2	19	20	4.38	42
Use interactive whiteboard as a tool for demonstrating skills (i.e., graphing)	1	0	3	15	23	4.40	42
Use interactive whiteboard advanced features such as print capture, floating toolbar, etc.	1	5	10	14	12	3.74	42
Create and save documents that include clip art	1	2	2	2	35	4.62	42
Format text including bullets, font, borders, cut, copy and paste	1	0	2	6	33	4.67	42
Create and use templates for documents	1	3	8	10	20	4.07	42
Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word)	0	2	2	12	26	4.48	42
Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint)	1	2	5	5	29	4.40	42
Publish presentations to the Web	4	5	10	13	10	3.48	42
Import videos/charts into presentations	4	5	8	11	14	3.62	42
Take photos with a digital camera	1	2	2	5	32	4.55	42
Use photo-editing software	3	6	4	14	15	3.76	42
Plan, organize, structure and collect materials for a classroom website	1	6	8	8	19	3.90	42
Upload classroom website	0	9	10	5	18	3.76	42
Update website regularly	0	13	5	7	17	3.67	42

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Create basic diagrams using concept mapping tool (for example, Inspiration or SMART Ideas)	1	4	6	14	17	4.00	42
Use symbol libraries and format symbols	8	6	3	13	12	3.36	42
Publish diagrams to web, use in PowerPoint files, create symbol libraries	7	7	9	10	9	3.17	42
Revise an existing WebQuest	7	10	8	7	10	3.07	42
Create an original WebQuest	9	9	6	13	5	2.90	42
Set up spreadsheet and basic graphing (for example, Microsoft Excel)	3	3	6	13	17	3.90	42
Set up grade book or other application requiring spreadsheet formulas	5	6	6	11	14	3.55	42
Put raw data into spreadsheet or published spreadsheet on web	4	7	6	11	14	3.57	42
Use scanner for basic applications	2	2	5	9	24	4.21	42
Participate in an online project	3	9	5	13	12	3.52	42
Create and implement an online project	5	8	8	11	10	3.31	42

Appendix A

eMINTS Teacher Technology Literacy Skill Survey 2008-2009

The survey was posted as follows:

eMINTS Comp and 4All participants in the FY09 cohort group (those who are completing year 2 of their eMINTS professional development sequence in spring 2010) should complete this survey **by September 30, 2008**.

To successfully complete the following survey, make sure that javascript and cookies are enabled in your web browser. The survey should take approximately 15-20 minutes to complete.

Informed Consent

eMINTS Professional Development Program Evaluation (eMINTS National Center/University of Missouri-Columbia)

Our goal is to collect information on participating teachers' use of and access to technology, in an effort to examine the relationship between technology, training fidelity and program outcomes.

Marking the "Yes, I agree to allow my responses to be used for research purposes" choice below indicates that you have read the information provided above and agree to participate in the evaluation of the eMINTS professional development program. You also may choose the "No, I prefer my responses not be used for research purposes" option or you can discontinue your participation in this study at any time by clicking the "Exit this survey" link at top right corner. Choosing not to complete this survey has no bearing on your status as an eMINTS or eMINTS4All teacher.

If you have any questions or concerns, feel free to call Wendy Martin at (212) 807-4287 or Scott Strother at (212) 807-4220 for the EDC evaluation team or Wayne Goddard, Evaluation and Research Coordinator for eMINTS National Center at (573) 882-1033. For additional information about human participation in research, please feel free to contact the UMC Campus Institutional Review Board Office at (573) 882-9585.

* 1. Permission to use

- Yes, I agree to allow my responses to be used for research purposes.
 No, I prefer my responses not be used for research purposes.

Demographic information

* 2. First name

* 3. Last name

* 4. State

* 5. School district

* 6. School building name

*** 7. Program and year in eMINTS professional development?**

- Comprehensive eMINTS PD-Year 2
 eMINTS4All-Year 2

8. Who provides your professional development?

- an eMINTS staff member
 a trainer from my district (or a nearby district)
 an eMINTS staff member in combination with a district trainer

Technology Literacy Skills

Please mark the number that best indicates your CURRENT level of knowledge and understanding of each of the technology skills listed below.

Rating scale

- 1 = This is still totally new to me. I have no skills in this area.
2 = I attended professional development about this, but have never done it with my students or on my own.
3 = I have a good understanding of this and have used it on my own and/or with my students at least three times in the past year.
4 = I really understand this and use it on my own and/or with my students on a daily or weekly basis.
5 = I know this so well I can teach other teachers to use it.

Appendix B

eMINTS Teacher Technology Literacy Skill Survey 2009 - 2010

The survey was posted as follows:

eMINTS Comp and 4All participants in the FY09 cohort group (those who are completing year 2 of their eMINTS professional development sequence in spring 2010) should complete this survey **immediately**.

To successfully complete the following survey, make sure that javascript and cookies are enabled in your web browser. The survey should take approximately 15-20 minutes to complete.

Informed Consent

eMINTS Professional Development Program Evaluation (eMINTS National Center/University of Missouri-Columbia)

Our goal is to collect information on participating teachers' use of and access to technology, in an effort to examine the relationship between technology, training fidelity and program outcomes.

Marking the "Yes, I agree to allow my responses to be used for research purposes" choice below indicates that you have read the information provided above and agree to participate in the evaluation of the eMINTS professional development program. You also may choose the "No, I prefer my responses not be used for research purposes" option or you can discontinue your participation in this study at any time by clicking the "Exit this survey" link at top right corner. Choosing not to complete this survey has no bearing on your status as an eMINTS or eMINTS4All teacher.

If you have any questions or concerns, feel free to call Wendy Martin at (212) 807-4287 or Scott Strother at (212) 807-4220 for the EDC evaluation team or Wayne Goddard, Evaluation and Research Coordinator for eMINTS National Center at (573) 882-1033. For additional information about human participation in research, please feel free to contact the UMC Campus Institutional Review Board Office at (573) 882-9585.

* 1. Permission to use

- Yes, I agree to allow my responses to be used for research purposes.
 No, I prefer my responses not be used for research purposes.

Demographic information

* 2. First name

* 3. Last name

* 4. State

* 5. School district

* 6. School building name

*** 7. Program and year in eMINTS professional development?**

- Comprehensive eMINTS PD-Year 2
 eMINTS4All-Year 2

8. Who provides your professional development?

- an eMINTS staff member
 a trainer from my district (or a nearby district)
 an eMINTS staff member in combination with a district trainer

Technology Literacy Skills

Please mark the number that best indicates your CURRENT level of knowledge and understanding of each of the technology skills listed below.

Rating scale

- 1 = This is still totally new to me. I have no skills in this area.
2 = I attended professional development about this, but have never done it with my students or on my own.
3 = I have a good understanding of this and have used it on my own and/or with my students at least three times in the past year.
4 = I really understand this and use it on my own and/or with my students on a daily or weekly basis.
5 = I know this so well I can teach other teachers to use it.

Appendix C

Additional Questions in the eMINTS Teacher Technology Literacy Skill Survey 2007-2008

To better understand the implementation responses questions were developed and added to the instrument. The following responses provide demographic details for further data analysis as longitudinal data is accumulated. As demographic responses it is interesting to note the outliers on both the high and low ends of the scales.

Technology Resources

eMINTS-CPD: How many computers are in your classroom?

Number	Response Count	Response Percent
0	0	0
1	0	0
2	0	0
3	1	1.1%
4	1	1.1%
5	0	0
6	2	2.2%
7	1	1.1%
8	2	2.2%
9	1	1.1%
10	1	1.1%
11	5	5.6%
12	14	15.6%
More than 12	62	68.9%

eMINTS-4All: How many computers are in your classroom?

Number	Response Count	Response Percent
0	3	7.1%
1	4	9.5%
2	4	9.5%
3	3	7.1%
4	1	2.4%
5	0	0%
6	1	2.4%
7	6	14.3%
8	3	7.1%
9	0	0%
10	1	2.4%
11	1	2.4%
12	0	0%
More than 12	15	35.7%

The following charts include both eMINTS-CPD and eMINTS4All in the response count.

12. What is the ratio of students to computers in your classroom?		Response Percent	Response Count
More than 1 computer per student	<input type="checkbox"/>	3.0%	4
1 student to 1 computer	<input type="checkbox"/>	25.0%	33
2 students to 1 computer	<input type="checkbox"/>	56.1%	74
3 students to 1 computer	<input type="checkbox"/>	3.0%	4
4 students to 1 computer	<input type="checkbox"/>	4.5%	6
5 students to 1 computer	<input type="checkbox"/>	0.8%	1
More than 5 students to 1 computer	<input type="checkbox"/>	3.0%	4
I have no classroom computers	<input type="checkbox"/>	2.3%	3
When we use computers in the building computer lab or library media center, the ratio is 2 students to 1 computer or lower	<input type="checkbox"/>	1.5%	2
When we use computers in the building computer lab or library media center, the ratio is 3 students to 1 computer or higher	<input type="checkbox"/>	0.8%	1
<i>answered question</i>		132	
<i>skipped question</i>		0	

Frequency of use

Responses are scored from 1 to 6 from left to right (e.g., Daily = 1). No targets have been designated.

13. How often did you use the following in your classroom teaching in the past year?									Rating Average	Response Count
	Daily	A few times a week	Once a week	A few times a month	Monthly	Less than once a month	N/A			
Teacher computer (desktop or laptop)	96.2% (127)	3.0% (4)	0.0% (0)	0.0% (0)	0.8% (1)	0.0% (0)	0.0% (0)	1.06	13	
Student classroom computers	61.4% (81)	20.5% (27)	3.8% (5)	6.1% (8)	1.5% (2)	1.5% (2)	5.3% (7)	1.63	13	
Student computers in a computer lab or library media center	4.5% (6)	10.6% (14)	22.0% (29)	8.3% (11)	6.8% (9)	26.5% (35)	21.2% (28)	4.04	13	
Internet	81.8% (108)	12.9% (17)	2.3% (3)	3.0% (4)	0.0% (0)	0.0% (0)	0.0% (0)	1.27	13	
Printer	78.8% (104)	16.7% (22)	2.3% (3)	2.3% (3)	0.0% (0)	0.0% (0)	0.0% (0)	1.28	13	
Scanner	21.2% (28)	18.9% (25)	12.1% (16)	18.9% (25)	3.8% (5)	15.2% (20)	9.8% (13)	3.12	13	
Digital camera	4.5% (6)	18.2% (24)	15.2% (20)	30.3% (40)	8.3% (11)	15.9% (21)	7.6% (10)	3.73	13	
Interactive whiteboard (for example, SMART Board)	86.4% (114)	10.6% (14)	0.0% (0)	2.3% (3)	0.0% (0)	0.8% (1)	0.0% (0)	1.21	13	
Projector	78.0% (103)	8.3% (11)	0.0% (0)	3.0% (4)	0.8% (1)	5.3% (7)	4.5% (6)	1.49	13	
Microsoft Word (or equivalent)	69.7% (92)	18.2% (24)	7.6% (10)	3.8% (5)	0.0% (0)	0.8% (1)	0.0% (0)	1.48	13	
Microsoft PowerPoint (or equivalent)	18.2% (24)	26.5% (35)	15.9% (21)	22.7% (30)	6.8% (9)	9.8% (13)	0.0% (0)	3.03	13	
Microsoft Excel (or equivalent)	6.8% (9)	12.1% (16)	16.7% (22)	24.2% (32)	11.4% (15)	23.5% (31)	5.3% (7)	3.97	13	
SMART Notebook software	64.4% (85)	15.2% (20)	3.8% (5)	6.8% (9)	5.3% (7)	2.3% (3)	2.3% (3)	1.78	13	
SMART Ideas or Inspiration	9.8% (13)	13.6% (18)	15.9% (21)	25.8% (34)	10.6% (14)	18.2% (24)	6.1% (8)	3.73	13	

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E-mail	93.9% (124)	1.5% (2)	0.0% (0)	0.8% (1)	1.5% (2)	0.8% (1)	1.5% (2)	1.14	13
	<i>answered question</i>								13
	<i>skipped question</i>								

Potential implementation challenges

Responses are scored from 1 to 5 from left to right (e. g., Strongly disagree = 1). No targets have been designated.

14. The following statements are about challenges you may have faced integrating technology into classroom teaching. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Disagree	No opinion	Agree	Strongly agree	Rating Average	Response Count
It was difficult to manage my students on the computers.	27.3% (36)	54.5% (72)	5.3% (7)	12.1% (16)	0.8% (1)	2.05	132
An adequate number of computers were available.	6.8% (9)	17.4% (23)	2.3% (3)	37.1% (49)	36.4% (48)	3.79	132
My classroom computers functioned reliably.	1.5% (2)	13.6% (18)	4.5% (6)	60.6% (80)	19.7% (26)	3.83	132
I did not have access to the Internet on enough computers.	57.6% (76)	30.3% (40)	6.8% (9)	3.8% (5)	1.5% (2)	1.61	132
My Internet access was not reliable or fast enough.	37.1% (49)	37.9% (50)	6.8% (9)	13.6% (18)	4.5% (6)	2.11	132
The available class time or lab time was adequate.	6.8% (9)	17.4% (23)	9.8% (13)	43.2% (57)	22.7% (30)	3.58	132
I did not have strong enough computer skills.	53.0% (70)	36.4% (48)	1.5% (2)	7.6% (10)	1.5% (2)	1.68	132
Many of my students did not have strong enough computer skills.	13.6% (18)	49.2% (65)	10.6% (14)	21.2% (28)	5.3% (7)	2.55	132
I have had adequate administrative support.	9.1% (12)	7.6% (10)	5.3% (7)	40.9% (54)	37.1% (49)	3.89	132
I did not have adequate technical support.	40.2% (53)	35.6% (47)	7.6% (10)	12.1% (16)	4.5% (6)	2.05	132
I had access to adequate web space for the work my students and I do.	3.0% (4)	8.3% (11)	14.4% (19)	44.7% (59)	29.5% (39)	3.89	132
I have had adequate instructional support.	1.5% (2)	2.3% (3)	5.3% (7)	48.5% (64)	42.4% (56)	4.28	132

Appendix D

Year 1 Comprehensive professional development schedule 2008-2009

Year 1 schedule

August/September

01-Getting Started

05- Cooperative Learning

02-Transforming Learning with Technology

06- Effective Uses of Productivity Tools

03-Constructivism

07-Peer Visit

04-Questioning Strategies

October

08-Interactive White Boards

09- Finding and Organizing Internet Resources

November

10- Evaluating and Using Internet Resources

11- Using Presentations in Inquiry-Based Learning

12-Learning Communities and Technology

December

13-Planning a Class Website

14-Inquiry-based Lessons

15- Introduction to WebQuests

January

16- Visual Literacy

17-Creating and Editing Digital Images

18-Creating a Classroom Website

February

19-Tools for Thinking

20-Website Work Day

March

21-Modifying a WebQuest

22-Collaboration Session/Troubleshooting

April

23-Collaboration Session

24-Classroom Communication

May

25-Connections Between Inquiry-based Teaching and State Assessment

26-File Management

May/June

27-Writing a WebQuest

Appendix E

Year 2 Comprehensive professional development schedule 2009-2010

Year 2 schedule

August

01-Scheduling Meeting Classroom Management

September

02-Website Enhancement

03-Working with Authentic Data

04-Peer Visit

October

05- Assessment

06--Interdisciplinary Teaching and Problem-based Learning

07 – Collaboration Session 1

November

08-Revisiting WebQuests

09-Collaboration Session 2

December

10-Mapping a Multimedia Project

11-Creating Multimedia Projects

January

12-Assessing Student Technology Products

13-Lesson Design 1

February

14-Lesson Design 2

15-Collaboration Session 3

March

16-eMINTS Winter Conference

17-Online Projects

April

18- Lesson Design 3

19-Collaboration Session 4

May

20-Planning for Next Year

Appendix F

Schedule for Year 1 and Year 2 eMINTS 4All

Year 1 eMINTS4 All Modules – 2008-2009

- Getting Started
- Transforming Learning with Technology
- Interactive White Boards
- Constructivism
- Learning Communities and Technology
- Finding and Organizing Internet Resources
- Cooperative Learning
- Using Presentations in Inquiry-based Learning
- Evaluating and Using Internet Resources
- Tools for Thinking
- Planning a Classroom Website
- Creating a Classroom Website (full day)

Year 2 eMINTS4All Modules – 2009 - 2010

- Questioning Strategies
- Assessment
- Interdisciplinary Teaching and Learning
- Classroom Communication
- Inquiry-based Lessons
- Introduction to WebQuests
- Online Projects
- Classroom Management (optional)
- Collaboration Session/Troubleshooting (optional)
- * Mapping a Multimedia Project (optional)
- *Creating Multimedia Products (optional)
- Working with Authentic Data (Optional)

*must choose 3 optional modules (Multimedia sessions complement each other)

Appendix G

Alignment of Teacher Technology Literacy Survey with Modules Taught

The following chart shows the modules taught in eMINTS-CPD and eMINTS-4All. The modules that correspond to TTLS items are on the same row. If the module is taught in Comprehensive or 4All courses there is an "X" under the appropriate PD type in the column "Module taught in:"

Alignment of TTLS with modules taught	Module taught in:			Survey items
<u>Module Name</u>	<u>CPD</u>	<u>4ALL</u>	<u>TTLS items</u>	
Getting Started	X	X	1. Send e-mail without attachments.	
Getting Started	X	X	2. Send e-mail with attachments.	
File Management	X		3. File management-move and delete files, set up folders.	
Finding and Using Internet Resources	X	X	4. Use online tools to save sites (for example, Backflip).	
Interactive White Boards	X	X	5. Use interactive whiteboard (for example, SMART Board) as a presentation tool to present information and ideas.	
Interactive White Boards	X	X	6. Use interactive whiteboard as a tool for student collaboration and/or brainstorming.	
Interactive White Boards	X	X	7. Use interactive whiteboard as a tool for demonstrating skills (i.e., graphing).	
Interactive White Boards	X	X	8. Use interactive whiteboard advanced features such as print capture, floating toolbar, etc.	
Effective Uses of Productivity Tools	X		9. Create and save documents that include clip art.	
Effective Uses of Productivity Tools	X		10. Format text including bullets, font, borders, cut, copy and paste	
Classroom Communication	X	X	11. Create and use templates for documents	
Classroom Communication	X	X	12. Create and publish a classroom newsletter (using, for example, Microsoft Publisher or Word).	
Using Presentations in Inquiry-based Learning	X	X	13. Create new presentations using my own or commercial templates (using, for example, Microsoft PowerPoint).	
Using Presentations in Inquiry-based Learning	X	X	14. Publish presentations to the Web.	
Using Presentations in Inquiry-based Learning	X	X	15. Import videos/charts into presentations.	
Visual Literacy	X		16. Take photos with a digital camera.	
Creating and Editing Digital Images	X		17. Use photo-editing software.	
Planning a Classroom Website	X	X	18. Plan, organize, and structure and collect materials for a classroom website.	
Modifying a WebQuest	X		19. Upload classroom website.	
Creating a Classroom Website	X	X	20. Update website regularly.	
Tools for Thinking	X	X	21. Create basic diagrams using concept mapping tool (for example, Inspiration or SMART Ideas).	

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Tools for Thinking	X	X	22. Use symbol libraries and format symbols.
Tools for Thinking	X	X	23. Publish diagrams to web, use in PowerPoint files, create symbol libraries.
Modifying a WebQuest	X		24. Revise an existing WebQuest.
Writing a WebQuest	X		25. Create an original WebQuest.
Working with Authentic Data	X	optional	26. Set up spreadsheet and basic graphing (for example, Microsoft Excel).
Working with Authentic Data	X	optional	27. Set up grade book or other application requiring spreadsheet formulas.
Working with Authentic Data	X	optional	28. Put raw data into spreadsheet or published spreadsheet on web.
Effective Uses of Productivity Tools	X		29. Use scanner for basic applications.
Online Projects	X	X	30. Participate in an online project.
Online Projects	X	X	31. Create and implement an online project.

Appendix H

Comparison of Means for Responses to Technology Skills

Figure 1 below reports the mean for each technology skills question in the TTLS, comparing pre-survey to post-survey scores for eMINTS-CPD. Item #32 is the overall average for all questions.

Figure 1: Chart of Means – Pre-survey and Post-survey eMINTS-CPD

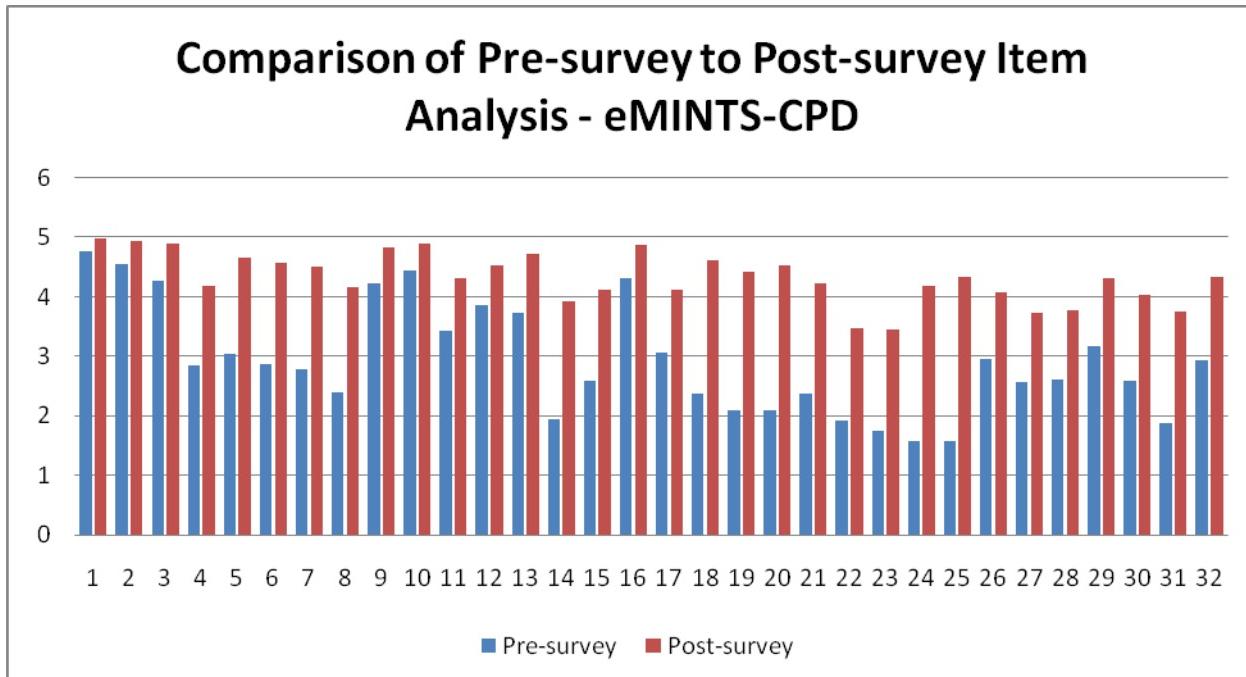
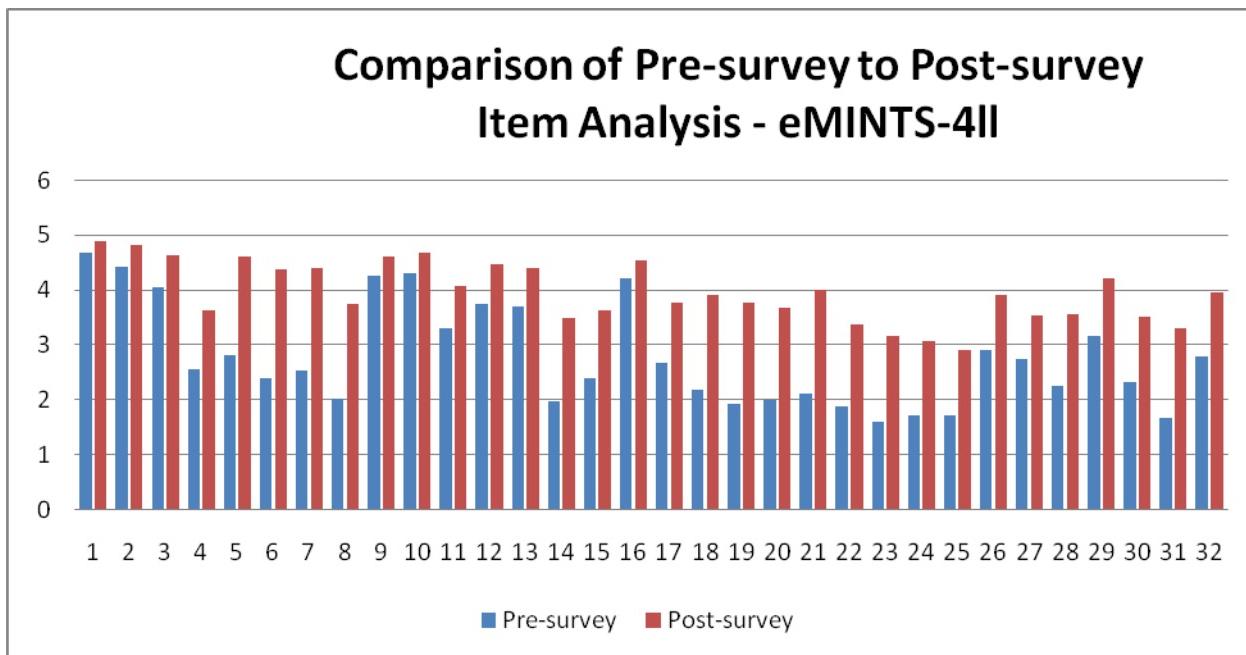


Figure 2 below reports the mean for each technology skills question in the TTLS, comparing pre-survey to post-survey scores for eMINTS-4All. Item #32 is the overall average for all questions.

Figure 2: Chart of Means – Pre-survey and Post-survey eMINTS-All



Figures 1 and 2 above clearly illustrate the differences teachers perceived when participating in eMINTS-CPD and eMINTS-4All professional development. For both groups improvement was shown for each skill item; however, the gains in scores were larger for CPD than for 4-All. The CPD teachers reported an average gain of 1.40 while the 4-All teachers reported an average gain of 1.17. The average post scores were also higher for CPD as compared to 4-All with the CPD group showing an average of 4.33 and the 4-All group showing an average post-survey score of 3.96. If there is a correlation between teacher practice and self-reported learning eMINTS-CPD is more successful in transforming teaching practices. Overall the graphs reinforce the program design intent for eMINTS-4All to be a complementary subset of eMINTS-CPD intended to create a more systemic or school-wide approach to the eMINTS instructional model.

Appendix H

eMINTS TEACHER PORTFOLIO SCORE REPORT

eMINTS Teacher Portfolio Score Report – Missouri

Fall 2010



eMINTS Teacher Portfolio Score Report – Missouri, Fall 2010

In addition to the Teacher Technology Literacy Skills Survey (TTLSS), a further assessment of teacher mastery of concepts taught in the eMINTS professional development programs was developed in 2006 in collaboration with EDC/CCT with the creation of the teacher portfolio submission process. Martin et al. (2008) reported on the first uses of the rubrics used to evaluate the portfolio elements and their relationship to program fidelity.

The portfolio process requires eMINTS Comprehensive teachers to submit a lesson plan, a WebQuest, and a classroom website or portal at the conclusion of their second year of professional development. Teachers in the eMINTS4All program submit only a lesson plan at the conclusion of their second year of professional development. Teachers in both programs are required to submit student artifacts and a reflection along with their lesson plan and WebQuest. Because the portfolio artifacts are designed by teachers participating in eMINTS professional development programs as a way to guide their instruction and interactions with students, the portfolio elements can serve as “proxies” for teacher understanding of how to structure their instructional practice and use technology to support students (Martin et al. 2008).

The rubrics used to evaluate and score each element of the teacher portfolio were created and validated during the 2006-2008 fidelity study conducted by EDC/CCT. Rubrics are available in Appendix A (Classroom website/portal), Appendix B (WebQuest), and Appendix C (Lesson Plan). Full portfolio submission guidelines are available in Appendix D.

Portfolio scorers are trained on the use of the rubrics to ensure inter-rated reliability. Student artifacts are not scored; rather, they serve as evidence that the teacher has actually taught the WebQuest or lesson plan in his/her classroom. Teacher reflections are not scored. The reflections serve as additional evidence that the instruction actually was carried out in the classroom and often provide additional information about the instruction that is useful in informing the scoring process.

Portfolios collected for teachers who participated in eMINTS professional development programs beginning in fall 2008 and concluding in spring 2010 were submitted electronically using the eMINTS National Center Moodle installation. Due dates were:

- February 13, 2010 for the classroom website/portal,
- April 12, 2010 for the WebQuest, student artifacts and reflection
- May 17, 2010 for the lesson plan, student artifacts and reflection

A total of 291 portfolios were submitted in during the 2010 submission window. Portfolios were submitted by 171 teachers participating in the Comprehensive eMINTS and by 120 teachers participating in the eMINTS4All professional development programs in Missouri schools.

eMINTS portfolio scorers computed scores for each element (classroom website/portal, WebQuest, and lesson plan) in each portfolio submitted by totaling the scores from each rubric for every teacher. The lesson plan rubric has a total of twenty-one (21) items, each with a low score of 1, a medium score of 2, and a high score of 3 for a range of 21-63 points. The Classroom Website/Portal rubric has a total of seventeen (17) items with the same 1-3 scoring system for a range of 17-51 for that element. The WebQuest rubric has a total of sixteen (16) items with the same 1-3 scoring system for a range of 16-48 for that element.

Each year a new overall portfolio cut-score is established based on the scores of all portfolios submitted for that year. All overall portfolio scores are ranked from highest to lowest with the cut-score established at the point where more than 90% of overall portfolio scores fall and that is within one-tenth (.1) point of the original study overall average.

The overall portfolio scores were subjected to the same cut-score as was applied to all portfolios submitted by teachers from Missouri and from other states implementing eMINTS. For portfolios received in spring 2010, the cut-score was established at 2.0.

Portfolios are determined to be “satisfactory” if they meet the following performance levels:

- All required elements have been submitted with the appropriate additional documentation (e.g., student artifacts and teacher reflection forms for the lesson plan and WebQuest)
- For eMINTS Comprehensive teachers, only one element may score below the 2.0 level. The remaining two elements must score at 2.0 or higher. This practice ensures that at least two of the elements meet the required average and one very high-scoring element is not “carrying” two weaker elements since allowing that to occur would not reflect teacher mastery.

The aggregate overall portfolio score for eMINTS Comprehensive teachers in Missouri in 2010 is shown in Table 1. In the original fidelity study (Martin et al. 2008) significant and positive correlations between portfolio elements and improved student achievement at various grade levels in mathematics and/or communication arts was found as shown in Table 1.

Table 1. Missouri portfolios element cut-scores related to improved student achievement

Portfolio Element	Score Related to Improved Achievement (Martin et al.)	Overall eMINTS Cut-score
Lesson plan	1.97	2.0
WebQuest	2.39	2.0
Classroom website/portal	1.85	2.0
Average total or overall portfolio	2.07	2.0

The cut-score for the WebQuest portion of the portfolio did not reach the same level as the score found by Martin et al. (2008) to be related to improved student achievement. The explanation for this is that the eMINTS scorers have typically scored that element more strictly than the original study scorers.

References

Martin, W., Strother, S., Weatherholt, T., & Dechaume, M. (2008). *eMINTS program evaluation report: An investigation of program fidelity and its impact on teacher mastery and student achievement*. EDC Center for Children and Technology: New York.

APPENDIX A

CLASSROOM WEBSITE/PORTAL RUBRIC

Name of teacher:

eMINTS trainer:

**Scores for items marked with an asterisk and highlighted will be included in the overall classroom website/portal score. Items not asterisked or highlighted will be included in the score if the item is present but scores will not be adversely affected if the item is not present for scoring.*

ITEM	HIGH=3	MEDIUM=2	LOW=1
COMMUNICATION			
1*	Website/portal provides information about class assignments or lessons with descriptions that identify goals and standards met.	Class assignments or lessons are listed but with little or no information about them.	No assignments or lessons included on website/portal.
2	Website/portal contains an updated calendar and/or classroom activities schedule that provides details about what students are doing in the classroom.	Website/portal contains a calendar or classroom schedule with basic general information about activities (i.e., list of subjects taught or school-wide events such as vacation days).	No classroom calendar or evidence of classroom activities is included in website/portal.
3*	Website/portal includes method for teachers to communicate regularly with students and/or parents and shows evidence of use (i.e., recent newsletter).	Website/portal includes method for teacher to communicate regularly with students/parents, but there is no evidence it is being used.	Website/portal does not include method for teachers to communicate regularly with students and/or parents.
4*	Website/portal describes classroom policies and expectations and how they were established.	Website/portal lists classroom policies and expectations (primarily as lists) with no description of how they were established.	Website/portal does not include classroom policies or expectations.
5*	Assessments /evaluation tools of class assignments that can be shared with students, such as rubrics, are available.	Information about assessments is available, but the assessments/rubrics are not available.	No information about assessment is available on the website/portal.
6*	Teacher and school contact information is easy to find on the site.	Teacher and/or school contact information are provided on the website/portal but it is difficult to find one or both.	No contact information is provided on the website/portal.
7*	Website/portal provides tailored information for multiple audiences (i.e., students, parents, community, teachers).	Website/portal is designed primarily for only two main audiences (i.e., students and parents).	Website/portal only includes information for one audience (i.e., students).
8	Web pages designed for parents include information about how to support children's learning (i.e. helping with homework).	Web pages designed for parents do not include information about how they can support their children's learning.	There is no information for parents.
9	Website/portal links to eMINTS website providing information about eMINTS in the school, classroom and in general.	Website/portal includes either a link to eMINTS website OR provides information about the program, but not both.	Website/portal does not include a link to eMINTS website or any information about the eMINTS program.

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PUBLICATION			
10*	Student work presented reflects student-created knowledge, student analysis and reflection on their own research and explorations. Information identifying students has been removed.	Much of the student work presented is rote, and does not involve student-directed work or any analysis or reflection. Information identifying students has been removed.	No student work is on the website/portal.
11*	Student work is designed to be interesting or useful for audiences other than the teacher.	Most student work consists of fulfilling assignment requirements and is not designed for other audiences	No student work is on website/portal.
12	Website/portal makes lesson plans available for other teachers to access or download.	Website/portal has only links to resources (not detailed lesson plans) for other teachers to use.	No lesson plans, links, or resources for other teachers.
INQUIRY BASED LEARNING			
13*	Website/portal links to inquiry-based lessons, such as WebQuests, that are purposefully chosen to support specific units or lessons. The links are organized in ways that allow them to be easily associated with units or lessons.	Website/portal links to inquiry-based lessons, but they are not purposefully selected to support specific lessons or units. It is not easy to tell which links are associated with which lessons or why.	No links to inquiry-based lessons.
14*	Website/portal links to high quality resources that support specific units or lessons.	Website/portal links to a wide array of resources that are linked to subjects.	No links to resources or lists links to resources that are not tied to subjects or to educational content.
15*	Website/portal links to high quality, multimedia educational resources (i.e., integrate text, video, interactive tools) that meet diverse learner needs.	Website/portal links to resources that are primarily text-based, of low quality or do not meet diverse learner needs.	Website/portal does not link to resources that provide educational content.
WEBSITE/PORTAL DESIGN			
16*	Website/portal is easy to navigate (i.e., all internal links are live, it is clear where links lead, main areas of site can be accessed from all pages, etc).	Website/portal is generally easy to navigate, but some confusion exists (i.e., some internal links are dead, user needs to scroll too much, main menu not found on each page).	Website/portal is confusing (i.e. more than two internal links are dead, it is not clear how to get from one area of the site to another)
17	Website/portal has appealing design with appropriate use of graphics relevant to site content. Appropriate credit is given to sources of graphics and content. "Permission to use" documentation provided for copyrighted materials.	Website/portal graphics distract from site content or are so large that pages do not open easily. Most sources are identified. "Permission to use" documentation provided for copyrighted materials.	Website/portal is primarily text-based. Few to no graphics. Sources are not identified. "Permission to use" documentation not provided.

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APPENDIX B

WEBQUEST RUBRIC

Name of teacher:

eMINTS trainer:

Name of WebQuest:

URL of WebQuest:

Item	HIGH=3	MEDIUM=2	LOW=1
Overall Design			
1	WebQuest includes multiple, relevant graphic/animation elements (such as differences in type size, color, etc).	Graphic/animation elements are related to the topic of the WebQuest, but they may be limited or some may be distracting.	WebQuest has either no graphic/animation elements or the graphic/animation elements are irrelevant to the topic of the WebQuest.
2	WebQuest is easy to navigate (i.e. all internal links are live, it is clear what links lead to, the main areas of the site can be accessed from all pages, etc.).	WebQuest is generally easy to navigate, but there are some confusing areas (i.e. some internal links are dead, main menu is not obvious, user may need to scroll to get to another page).	WebQuest is difficult to navigate (i.e. internal links are dead, it is not clear how to get from one area of the site to another)
Introduction			
3	Introduction presents an engaging scenario that includes an essential question or problem.	Introduction has an essential question or problem but does not present it in an engaging scenario.	Introduction provides no essential question or problem for the student.
Task			
4	Task description provides a clear description of what students will be doing.	Task exists, but does not clearly describe what students will be doing.	No task is described.
Process			
5	Process clearly identifies steps needed for task completion and steps flow logically from scenario or essential question presented in introduction.	Process only meets one of the following criteria: 1. clearly identifies steps needed for task completion 2. is aligned with the essential question.	Process does not clearly state what students are expected to do and is not aligned with the essential question.
6	Process provides thorough scaffolding for organizing information gathered.	Process states that information gathered needs to be organized, but provides minimal or no scaffolding.	Process does not address the need to organize the information gathered.
7	Students work in groups or pairs. Interdependency and individual accountability are required for task completion.	Students work in groups or pairs but with no interdependency for creation of an end product.	Work is done individually to create individual products.
8	5 or more resources are identified (including offline resources).	2-4 resources are identified (including offline resources).	0-1 resources are identified.
9	Resources are organized to coordinate with roles students take in the task.	Resources are not organized to coordinate with roles students take in the task.	Students have no designated roles and/or there are no resources identified.

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10	Process sections take into account diverse students' needs (linguistic, cultural, etc.) by providing optional resources to access, processes to engage in, and products to create.	Process takes into account some diverse learner needs by offering only one of the following: 1.optional resources to access or 2. different processes to engage in or products to create.	Resources, process, and end product are exactly the same for all students.
11	End product requires students to engage in advanced higher order thinking skills, such as analysis and synthesis of information, and apply it to answer the WebQuest question or solve the WebQuest problem.	End product requires some advanced thinking skills such as application or compare and contrast.	End product does not require any advanced thinking skills.
12	End product requires students to creatively present or communicate their answer to the WebQuest questions or the solution to the WebQuest problem.	End product students produce fulfils only one of the following: 1. requires them to be creative, or 2. answers the WebQuest question or solve the WebQuest problem.	End product students asked to produce requires no creativity and does not answer the WebQuest question or solve the WebQuest problem.
Evaluation			
13	Detailed assessment rubrics or tools are available for viewing or downloading.	Assessment criteria are presented in the WebQuest but they are not described in detail.	Assessment criteria/tools are not included in the WebQuest.
14	Assessment criteria are clearly connected to the tasks and products of the WebQuest.	Assessment criteria are not directly connected to tasks and products of the WebQuest.	No assessment criteria are given.
Conclusion			
15	Conclusion gives enough information links or questions for students to attempt further study.	Conclusion is given but it does not give enough information for students to attempt further study.	No conclusion is given.
16	A culminating message in the conclusion restates the big idea of the WebQuest .	A culminating message is present in the conclusion, but it is not relevant to the WebQuest.	No conclusion is given.

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APPENDIX C

LESSON PLAN RUBRIC

Name of teacher:

eMINTS trainer:

Lesson plan topic:

Row	HIGH=3	MEDIUM=2	LOW=1
Standards (Performance, Knowledge and NETS-S)			
1	Standards are identified, described and are addressed in the lesson.	Standards are: 1. identified only by number, so it is unclear how the lesson addresses them, or 2. unclear, or 3. not addressed in the lesson	No standards are identified.
What concepts do you want students to understand after completing this lesson?			
2	Learning goals focus on both the content to be learned and higher order thinking skills	Learning goals focus solely on content to be learned and not higher order thinking skills.	Learning goals are either not clear or not included.
Essential Question			
3	Essential question is open ended; spurs higher order thinking and requires students to gather and analyze data. Question also involves a problem/issue relevant to student interests/lives.	Essential question meets only one of the following criteria: 1. is open-ended, spurs inquiry and requires students to gather and analyze data or 2. addresses a problem/issue relevant to student interests/lives.	Essential question is structured around a fact-based question that can be answered with research and no analysis.
Criteria for Success			
4	Lesson articulates specific tasks/products needing to be completed to demonstrate understanding of stated concepts.	Lesson provides general criteria for demonstrating knowledge, but no specific tasks or products.	Criteria for success do not address the essential question or no criteria are given.
Resources			
5	Multiple resources (5 or more) for gathering information/data are available for students. Resources are specific to the content and goals of the lesson	2-4 resources for gathering information/data are available. Resources are specific to the lesson content.	Either no or a single resource is offered to students, or resources are not specific to lesson content.
6	Resources include a variety of high quality, multimedia educational resources.	Resources are of average quality and/or are limited in variety (i.e., only textbooks and no websites).	Either no or a single resource is offered to the students, or resources are not specific to lesson content.
Management			
7	Lesson provides detailed descriptions of the timeframe and activities to be carried out (i.e., days and times).	Lesson provides a general plan for how activities will be carried out but the timeframe is not detailed.	There is no description of how and when activities will be carried out.
8	Provides multiple strategies for enabling students to share technology and/or resources.	Provides a single strategy for enabling students to share technology and/or resources	Lesson does not address how students will share technology and/or resources.

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9	Lesson describes how students will assume different but interdependent responsibilities in group work.	Group work has no interdependence among students.	Lesson does not involve group work.
Learner Diversity			
10	Lesson explicitly addresses and takes into account more than one of the following: different learning styles, abilities, reading levels, cultural backgrounds and/or languages.	Lesson addresses and takes into account only one of the following: different learning styles, abilities, reading levels, cultural backgrounds and/or languages.	Lesson does not address the needs of diverse learners.
11	Plan describes options for multiple (more than two) work products/processes students can do to demonstrate their learning.	Plan identifies two different work products/processes students can do to demonstrate what they have learned.	All students are required to do the same work products/processes.
Lesson Description			
Engage			
12	Provides specific strategies/techniques designed to access students' prior knowledge	Lesson includes a general plan to accessing students' prior knowledge.	There is no mention of the need to access students' prior knowledge.
13	Lesson includes specific techniques to aid students in generating questions to guide their explorations (i.e. charts, brainstorming, small group discussions).	Lesson requires that students generate questions to guide their exploration, but does not describe the techniques used to support them in this process.	Lesson does not require students to generate questions to guide their exploration.
Explore			
14	Lesson describes specific techniques/strategies to help students plan their exploration.	Lesson calls for students to plan exploration, but does not describe techniques used to support them in the process.	Lesson does not involve students planning their exploration.
15	Lesson describes specific techniques/strategies to help students organize information gathered through exploration.	Lesson calls for students to organize information gathered from exploration, but does not describe techniques used to support them in the process.	Lesson does not involve students organizing information gathered through their exploration.
Explain & Elaborate			
16	Lesson describes techniques/strategies used to help students analyze data collected through exploration (i.e. concept mapping, modeling discussion, etc.).	Lesson calls for students to analyze data gathered from exploration, but does not describe techniques used to support them in the process.	Lesson does not involve students' analysis of data gathered through exploration.
17	Plan describes specific reflective activities students engage in to clarify or modify their understanding.	Plan states that students reflect on what they have learned, but does not describe activities they will engage in to support reflection.	Plan does not involve student reflection.

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Evaluate			
18	Describes how assessments (guides/rubrics) are shared with, or created in conjunction with, students.	Describes assessments (guides/rubrics) but does not specify how those are shared with, or created in conjunction with, students.	Does not specify assessment criteria (guides/rubrics).
19	Assessment criteria are clearly connected to lesson content and objectives.	Assessment criteria are not directly connected to lesson content and objectives.	Does not specify assessment criteria (guides/rubrics).
20	Lesson specifies multiple (3 or more) forms of formative or summative assessments (i.e. drafts and journaling, presentations, tests, reports).	Lesson identifies a limited number (2) of either formative or summative assessments.	Lesson identifies a single assessment or does not identify any assessment.
21	Product(s) students produce requires them to engage in advanced higher order thinking skills, such as analysis and synthesis.	Product(s) students create requires some advanced thinking skills such as application or compare and contrast.	Product(s) students produce does not require any advanced thinking skills or there is no product.
22	Lesson requires an end product relevant to students' lives and/or interests.	Lesson has students create an end product that is not relevant to students' lives and/or interests.	Lesson does not require students to create an end product.
Technology Use			
23	Lesson utilizes multiple websites (3 or more) to support student learning activities and accessibility to different kinds of information and resources students would otherwise not have access to.	Lesson utilizes one or two websites to support student learning activities and accessibility to different kinds of information and resources students would otherwise not have access to.	Lesson does not utilize any websites.
24	Two or more forms of technology, other than the internet, are used to support student learning activities.	Only one form of technology, other than the internet, is used to support student learning activities.	No technology, other than the internet, is used to support student learning activities.

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APPENDIX D

**Guidelines for Portfolio Submission
Comprehensive eMINTS Teachers**

Guidelines for submission are effective upon publication in the online Moodle courses for submission of portfolios. Guidelines apply to all elements of the portfolio required for the certification process for Comprehensive eMINTS teachers.

I. Requests for Extension of Deadlines

All portfolios submission deadlines are firm. Please do not contact the eMINTS office to request an extension for any portfolio submission deadline(s).

Extension will be granted only to the entire group for the submission cycle if some unforeseen circumstance is encountered (i.e., major natural disaster), not to individuals. eMINTS will determine if extensions of published deadlines are to be granted and announce the extension to affected cohort group members. Individuals who need an extension should submit late portfolio elements the following year during the regular submission cycle. No penalties for late submissions will be assessed if elements are submitted the following year in the regular submission cycle.

Portfolio elements that have been submitted and scored within the deadlines will be saved for one portfolio scoring cycle. Orphaned elements from portfolios that are not completed within one year of the expected submission period will be discarded and all elements must be resubmitted for the portfolio to be scored.

Individuals who fail to submit a complete portfolio by their cohort group's deadlines may submit the following year in the regular submission cycle by registering to submit their portfolio through the eMINTS website. Effective July 1, 2009, portfolios submitted more than one year beyond the last PD session date of the teacher's year 2 cohort group will be assessed a \$50 portfolio review fee.

All portfolio submissions must meet submission guidelines in effect for the year being reviewed when they are submitted.

II. Submission of Student Artifacts

Submission of student artifacts is **required** for lesson plan and WebQuest elements to achieve a rating of "satisfactory." Lesson plans or WebQuests submitted without accompanying student artifacts will not be scored. They will be noted as "incomplete" and participants will have the option of resubmitting the elements with artifacts for scoring during the next portfolio submission cycle. Portfolios with "incomplete" elements will be saved for one year from submission and deleted after that time if complete submissions are not provided.

The requirement for student artifacts may be waived only for veteran eMINTS or eMINTS4All teachers who are submitting portfolios for review after completion of the professional development program and who are no longer assigned to classroom teaching positions or who are assigned to positions without the requisite eMINTS or eMINTS4All equipment. Individuals in these circumstances must note their current position and why they are not able to submit student artifacts on the submission form.

The following requirements apply to all student artifacts:

- A. A minimum of three (3) artifacts must be submitted. Please note: it is not necessary to submit the “best” artifacts produced from the lesson or WebQuest. Rather, the artifacts should represent the range of student products received.
- B. It must be apparent to the reviewer that the artifacts match the lesson plan or WebQuest taught.
- C. Please reduce the size of student artifacts as much as possible. It is not necessary to upload complete student video products – a sample is sufficient.
 - a. Zip large files
 - b. Compress photos
 - c. Reduce video clips to 30 seconds in length
 - d. Reduce audio files to 30 seconds in length
- D. Remove all personally identifiable student information from artifacts including the use of student names in file names.
- E. Any student artifacts that appear to be generated by individuals other than students are not eligible for submission and may result in the immediate disqualification of the entire portfolio from the scoring process. Disqualified portfolios may not be resubmitted for scoring at any future date.

III. Collaboration on Portfolio Elements

Collaboration, high quality team teaching and interdisciplinary teaching are hallmarks of the eMINTS instructional model. eMINTS are encouraged to work with one another and to collaborate in their teaching.

Submission of portfolio elements (lesson plan and WebQuest only) that are the result of collaborative work by more than one teacher is acceptable. The lesson plan submitted must be a full teaching unit with multiple lesson plans. Lesson plans and WebQuests submitted collaboratively should be of more than one day in duration. Each teacher should have a specific role in the planning process and should be individually responsible for a significant portion of the unit plan. This might include different content areas of an interdisciplinary lesson, an individual lesson in a unit plan, or the planning for specific days in a unit.

Teachers who submit lesson plans or WebQuests that have been developed and/or taught collaboratively should follow these submission guidelines:

WebQuest

- Each teacher must complete a submission form with an active link to the WebQuest.
- In the submission form, teachers should indicate the work was a collaborative effort. They should demonstrate individual accountability by explaining their role in the overall planning process and identifying exactly which component of the WebQuest was their specific responsibility.
- Separate student artifacts that meet the guidelines for WebQuest submissions must be provided by each teacher. The student artifacts must be different for each teacher and clearly reflect the portions of the WebQuest developed by the individual teacher.

Lesson Plan:

- Each teacher must submit an entire copy of the lesson plan highlighting the portions reflecting their design.
- The specific standards / GLES addressed by content area for the portion of the lesson the teacher developed must be clearly indicated.
- In the submission form, teachers should indicate the work was a collaborative effort. They should demonstrate individual accountability by explaining their role in the overall planning process and identifying exactly which component of the unit was their specific responsibility.
- Separate student artifacts that meet the guidelines for lesson plan submissions must be provided by each teacher. The student artifacts must be different for each teacher and clearly reflect the portions of the lesson developed by the individual teacher.

Classroom websites/portals must be the work of an individual teacher.

IV. Scoring and Reporting Scores

Portfolio elements are scored individually and then averaged to arrive at an overall portfolio rating for eMINTS teachers. Portfolios may receive the following ratings:

- Satisfactory – the average of all elements (or the lesson plan) is equal to or higher than the cut-off score determined by the eMINTS National Center based on the norming process completed by the Education Development Center.
- Unsatisfactory – the average of all elements (or the lesson plan) is below the cut-off score determined by the eMINTS National Center based on the norming process completed by the Education Development Center.
- Incomplete – one or more submission forms or elements of the portfolio did not include all of the required information OR one or more of the elements could not be accessed (i.e., file corrupt, URL provided not accessible, etc.).

Within four weeks of the completion of all portfolio scoring processes (generally in late August), portfolio scores will be posted to each teacher's individual online Moodle account. Scores are viewable only by the individual teacher and not by any other person in the Moodle with the

exception of selected eMINTS administrative staff who have completed appropriate University of Missouri Institutional Review Board training.

All teacher portfolio scores are confidential. Individual teacher portfolio scores will not be released to any other parties (i.e., district facilitators or administrators); this policy includes all pre-service teacher portfolio submissions. Teachers who wish to share their scores with others may do so. eMINTS will provide an anonymous aggregate (composite) average score for all teachers in a district upon request of the district eMINTS Project Contact. Individual teacher scores with or without personally identifiable information will not be released. Aggregate scores will be provided only for districts with more than two (2) teachers submitting portfolios.

V. Resubmission Guidelines

Comprehensive eMINTS participants who receive a score of “unsatisfactory” on their portfolio may resubmit their portfolio for re-scoring. Only the individual element(s) rated “unsatisfactory” should be revised and resubmitted. Any element(s) rated “satisfactory” in the initial scoring need not be revised or resubmitted.

Participants who received a score of “incomplete” for their portfolio may resubmit their portfolio for re-scoring. Incomplete scores generally mean that elements did not include all required components (i.e., student artifacts) or elements could not be accessed (i.e., file corrupted, links to classroom website not active or log-in credentials not supplied). Only the individual element(s) rated “incomplete” should be completed and resubmitted. Any element(s) rated “satisfactory” in the initial scoring need not be resubmitted.

Comprehensive eMINTS participants who missed the deadline for submitting a portfolio element and who requested an extension may resubmit their portfolio for scoring provided they have followed guidelines in Section I.

All participants should post resubmissions as assignments to the “Resubmission” topic in their assigned Portfolio Submission Moodle space. Resubmissions must use the naming conventions prescribed for the original submission – be sure to use the date of the resubmission in the file name.

All portfolio resubmissions must meet submission deadline dates and guidelines in effect for the year being reviewed at the time of resubmission.

VI. Organization and Overall Presentation

Portfolio elements must be accompanied by completed submission forms. **Elements submitted with incomplete forms will not be scored and must be resubmitted in the fall resubmission cycle for review.** Portfolios with “incomplete” elements will be saved for one year from submission and deleted after that time if complete submission forms are not provided.

All URLs for website/classroom portals and WebQuests must be publicly accessible by the portfolio reviewers. Please do not submit URLs that are password-protected or are not accessible during the summer months unless log-in credentials are also supplied. Inaccessible elements will result in the portfolio being rated “incomplete” and will require resubmission in the fall resubmission cycle for review. Portfolios with “incomplete” elements will be saved for one year from submission and deleted after that time if accessibility is not provided.

Use the blank eMINTS Lesson Plan form, not the form with the prompts. Re-title the Lesson Plan with the title of the lesson plan.

Please take time to spell and grammar check all documents.

Revised November 25, 2009